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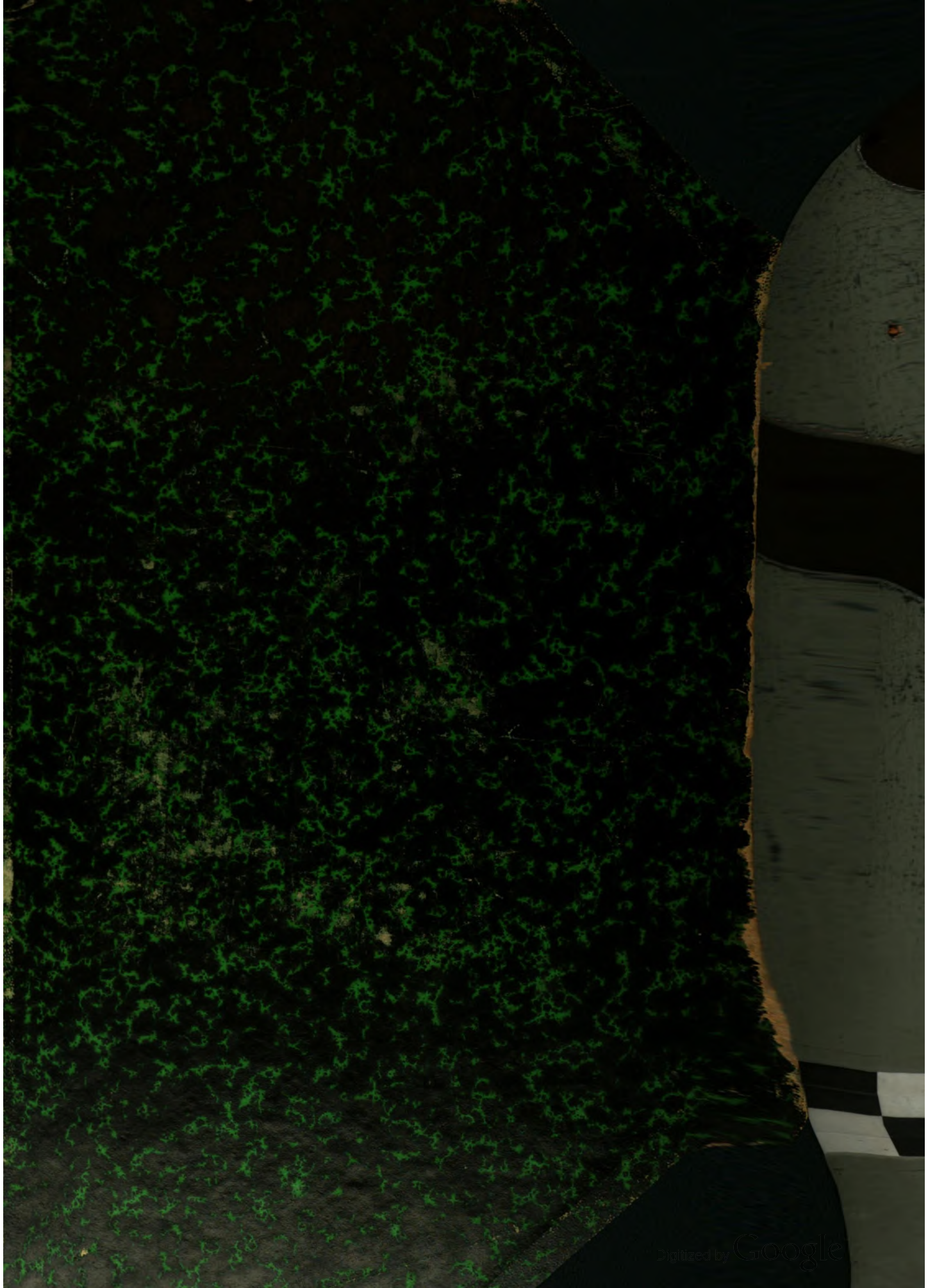
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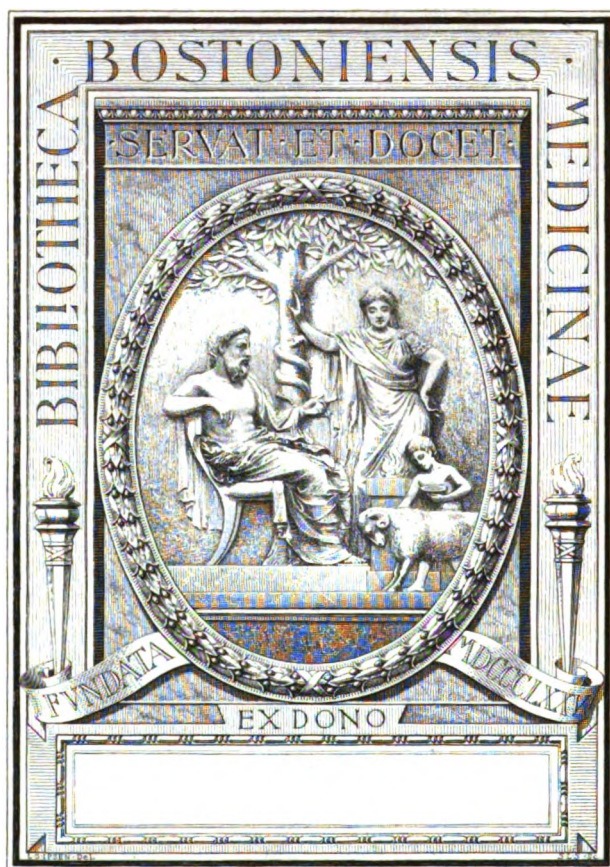
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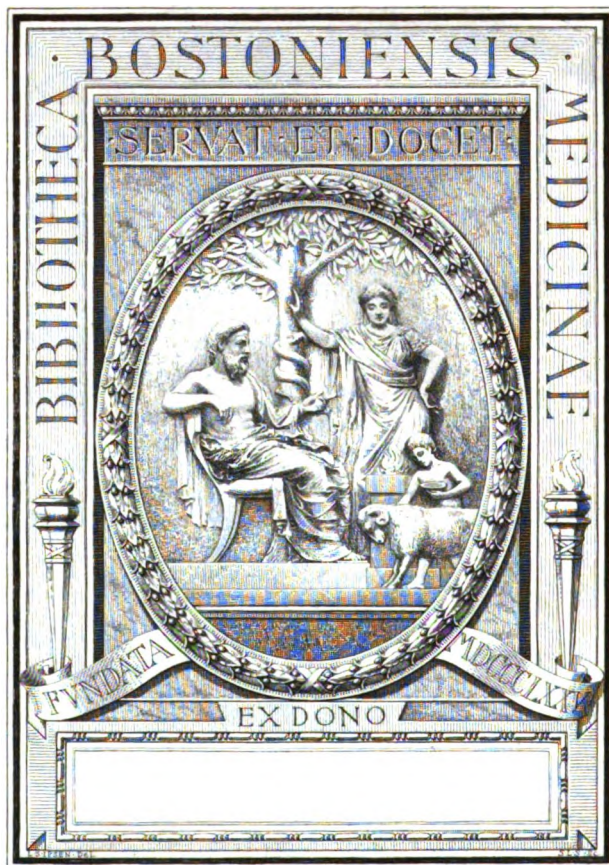
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# THE Brooklyn Medical Journal

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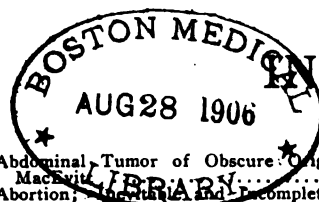
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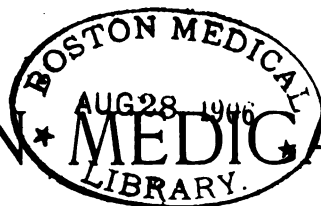


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## ORIGINAL ARTICLES.

### A LECTURE ON ACUTE SEPTIC INFLAMMATIONS OF THE THROAT AND NECK.\*

BY SIR FELIX SEMON, C.V.O., M.D., F.R.C.P.

Physician-Extraordinary to His Majesty the King.

GENTLEMEN: A few days ago when travelling in Canada I came across an obituary notice in one of the papers. I will read to you *verbatim* what was stated there:

"A very prominent citizen died early this morning at his home here after an illness of a few hours. The cause of death was oedema of the lungs and heart failure. Yesterday he remained at home for treatment by his family physician for tonsillitis, of which he had a slight attack. Later it began to develop serious complications, and the attending physician decided to call in one of the city specialists. During the evening the patient grew steadily worse. At midnight some other medical men were called in to assist, but death came shortly before two o'clock."

Here, gentlemen, is a case in which a patient, after an illness of a few hours, dies suddenly from what seemed to be an ordinary attack of tonsillitis. It is with cases of this kind that I shall have to deal in this lecture. I know by experience that when one of these cases comes under the observation of even well informed physicians, the doctor usually is as much astonished and perturbed as the patient's family by the termination of the phenomena which had developed, and with which previously (though he may have had a large experience) he had been totally unacquainted. I heartily hope that you may never come across one of these—fortunately very rare—cases, but if you should I trust that what I am going to say may be of a little help to you.

The affection, of which this unfortunate gentleman died, evidently belonged to the group of acute septic infections of the throat and neck. Now in regard to these cases there exists a considerable amount of confusion in medical terminology, a confusion which is a remnant of old

times. If in our days a man writing on diseases of the larynx were to devote a whole chapter to "aphonia" and if in that chapter he were to indiscriminately deal with such incongruous affections as hysterical paralysis of the adductors, with aortic aneurism or oesophageal cancer paralyzing one vocal chord, with acute oedema of the larynx, with laryngeal tuberculosis, syphilis and neoplasms, with injuries and fractures of that organ, and with foreign bodies in the larynx, for no other reason than that aphonia occasionally occurred in these totally different diseases, everybody would laugh, saying that the author was still enslaved by the old symptomatic terminology, and that he had better learn to think and teach on etiological grounds. Exactly the same would be said if other mere symptoms such as "dyspnoea," "cough," "dysphagia," were made the basis of clinical teaching.

Oddly enough, however, with regard to oedema of the larynx and the neighboring parts matters are quite different. In some of the best modern text books of internal medicine, or even laryngology, you find the most incongruous conditions grouped together under the head of "oedema of the larynx" for the sole reason that this one symptom was present and dominated the clinical appearances. Thus in such works all conceivable forms of active and passive infiltration of the tissues of the throat and neck, such as catarrhal inflammation of the larynx, oedema of the pharynx, inflammations from impaction of foreign bodies, from burns and scalds, from injuries, from acute septic infections, from Bright's disease, from amyloid degeneration of the kidneys, from heart affections, from malarial cachexia, from compression of the vessels of the neck and so on are heaped together, and all this as if they had anything in common except the one symptom of infiltration of the tissues of the region in question.

Nor are matters improved when subdivisions are attempted, which are not genuine subdivisions. Thus you find in most modern text-books that "erysipelas of the larynx" is described as an affection *sui generis*, although the notion that a specific strepto-coccus erysipelatosus (Fehlei-

\* Lecture delivered at the Long Island College Hospital, November 3, 1904, and reported for publication in this Journal.



sen's) existed, nowadays is considered as quite exploded by bacteriologists. Again strict discriminations are being made in some works between infiltrations of these parts, because in one case there has been a serous, in another a purulent, in a third a fibrinous, in a fourth a haemorrhagic, and yet in another a gangrenous, effusion. From quite a different point of view strict separations are being made in other text-books as to whether the affection began in the tongue, the tonsils, the pharynx, the larynx, or the cellular tissue of the neck, and you are accordingly overwhelmed by a lot of names. You read of acute glossitis, of oedematous pharyngitis and laryngitis, of acute oedema of the larynx, of abscess of the larynx, of phlegmonous pharyngitis and laryngitis, of erysipelas of the larynx, of angina Ludovici, when you study these chapters one after the other, when you have gone over the titles, definitions, and pathology, and when at last you come to read the symptoms, you cannot help being struck with the fact, that with the exception of the commencement of the affection being located in the one case a little higher up, and in the other a little lower down, or of there being in the one case a serous and in another a purulent exudation, these descriptions read exactly like one another, and you cannot help wondering why these affections, apparently alike, should have been separated into different classes. My object is to try and help you to solve this problem.

The affections of which I am going to speak, the acute septic infiltrations of the throat and neck, ought to be strictly separated from those of passive oedema as in Bright's disease. All these acute septic infections are due to the action of various micro-organisms which either inhabit or may invade the human body. We therefore begin from the etiological, that is to say the bacteriological, point of view.

For the purpose of this lecture, we may divide these micro-organisms into two great classes—the one innocent, the other pathogenic. With the former we have nothing to do. The pathogenic can and ought to be subdivided into two big groups, those which have a specific action and the others which merely have an inflammatory effect. (The latter usually are called "pyogenic," but I do not think that this is a good name, because it induces you to believe that their effect is always to cause a *purulent* effusion. As this is by no means the case, the sooner that appellation goes out of medical terminology the better.)

Of the specific bacteria you have a great number, and I will only mention a few of the most

important, such as the bacilli of tuberculosis, of pest, of relapsing fever, and diphtheria. Whenever these micro-organisms produce *any* effect, the effect is always one and the same. The tubercle bacillus does not produce tuberculosis in one case and a different disease in another. Whenever it shows its pernicious activity, it is always in developing tuberculosis. The same law obtains in diphtheria and in the action of all other specific micro-organisms.

Quite different from this class of specific pathogenic micro-organisms is the second class. Of these organisms, of which there are a large number, and the most prominent and representative of which is the streptococcus pyogenes, it may be truly said that they are "interchangeable" with one another, inasmuch as the action of all of them always has one and the same effect: they all produce *inflammation*. The inflammatory irritation caused by them primarily attacks the blood-vessels; they become dilated; an alteration of their walls occurs; augmented transudation takes place; the increased permeability of the walls of the blood vessels allows leucocytes to emigrate, and this emigration (diapedesis) is the main symptom. It is not alone the streptococcus pyogenes which produces these effects. There are a host of other pathogenic bacteria which cause exactly the same result. There are the various forms of the staphylococcus, the albus, aureus, flavus and citretus, the bacterium coli, the pneumococcus, the bacillus pyogenes foetidus, the tetragenous and the pyocaneus, not to mention others.

These micro-organisms are "interchangeable" in the sense that not one of them produces one form of inflammation and another another form of inflammation, but that they all may produce different forms of inflammation, according to their *quantity*, *virulence* and to the *nature* and *condition* of the *tissues of the body* they invade. In other words: there is no pathogenic organism which always produces a serous exudation, and none that always causes a purulent one. It is equally erroneous to believe that the erysipelatous form of inflammation is caused by a specific organism. We know now certainly by clinical experience, as well as by bacteriological experiment, that the streptococcus pyogenes and the streptococcus erysipelatosus are in reality one and the same organism, that no specific pus-microbes exist, and that every one of the so-called "pyogenic" cocci proper is capable of producing apart from the purulent, *all other* forms of inflammation.

Keep that always before your minds, gentle-

men, and then you will feel that there is no artificial difference to be made between two inflammations, because in one case you see a serous exudation and in the other a purulent one. Nor need you have recourse to that expedient which has been used for many years, when there was in certain cases serous inflammation in one part and purulent inflammation in another part of the body, viz., that you have to speak of a "mixed" infection. From what I have told you, you will have seen, that one and the same organism may produce in one part of the body a serous and in another part a purulent inflammation, or may cause in midst of a serous exudation purulent foci, that is to say, circumscribed abscesses.

So far as terminology is concerned, there is only one other point to discuss: Ought any differentiation to be made according to where the primary focus is located? Ought we to speak in one case of an "angina Ludovici," when the first symptom is an infiltration of the neck, and in another case of an "acute oedema" or "abscess of the larynx" if you find the primary focus in the larynx, and ought we to speak of an "erysipelas of the pharynx" if the infection begins in the fauces? I say No, to such proposals, and to illustrate what I mean I cannot give you any better comparison than diphtheria. Diphtheria remains diphtheria, wherever we find it, whether it begins in the fauces, larynx, nostrils, eye-lids, the bronchial tubes, the vulva, the rectum, or any wounded surface of the human body. Similarly any of these septic inflammations remains the same wherever by accident its first localization may be. That this *usually* is in the tonsils is easily explainable by the anatomical structure of the parts, because the epithelial covering of these glands shows gaps large enough to allow of a transit of leucocytes, so that their crypts almost, so to say, invite pathogenic micro-organisms to make the tonsils their first habitat when invading the body. It is not only in these septic cases that the tonsils form the portal of entrance for infectious processes. In a good many cases, for instance, of tuberculosis of the lungs, we find at the post-mortem examination latent foci of tuberculosis in the tonsils, though no actual tonsillar tuberculosis may have appeared during life. That diphtheria in the majority of all cases shows itself first in the tonsils, is known to all of you. Similarly most of the acute septic processes, of which I speak, commence in the form of the apparently ordinary tonsillitis. But supposing that a person had a little abrasion on the neck, at the time when he was exposed to the action of any of these path-

ogenic organisms, they may of course invade his body from the outside and may cause what has been hitherto called an "angina Ludovici." The clinical phenomena of that old-fashioned affection may be caused from within, if the infection should take place through a hollow tooth or through an abrasion in the floor of the mouth. Similarly, if there should be an epithelial abrasion on the patient's tongue, the affection may begin as a glossitis, or if he should have an acute laryngeal catarrh, it may start as an oedema of the larynx. In other words, the question where the disease is first located is purely accidental. When you have grasped these simple facts, you will realize that there are a number of septic micro-organisms which produce these affections, and that the question whether they are attended by serous, purulent, haemorrhagic, or gangrenous, exudation, depends upon the *quantity* and *virulence* of the invading organism and the *resistance* of the tissues in which they find their first habitat, whilst the question as to the part *first* invaded is merely an accident in the individual case.

So much about the pathology of these cases. We now come to the clinical aspects. The pathogenic micro-organisms as a rule seem to invade persons previously in good health, independent of age and sex. I have found this so in my own practice, but in a few cases my patients were known to have previously suffered from diabetes, and this is very interesting because, as shown by the frequency of abscesses and furunculosis in diabetic persons, in diabetes the power of resistance of the tissue-elements is diminished, a fact, which very possibly may predispose such patients towards septic infections. It certainly seems strange that these septic cases are met with less frequently in hospital than in private practice, that is to say, that they occur among people whom we should expect to be much less exposed than the poor, to the action of these pathogenic micro-organisms. About the length of an incubation stage, if such should exist at all, we know nothing, and prodromal symptoms of any kind usually, though not always, are conspicuous by their absence. As a rule, the disease comes on quite suddenly, without any warning.

By merest chance I had in two of my cases the opportunity of verifying that fact myself. In one case, that of a well-known London surgeon, a colleague of mine at St. Thomas's Hospital, on the afternoon previous to the seizure, he was my neighbor at a staff-meeting and told me that he had never felt better in his life than on that occasion. The same evening, however, he was

taken ill with an acute septic inflammation of the throat, and on the following evening tracheotomy had to be performed. He died three days afterwards.

In the second case, a gentleman brought to me his son, who suffered from some trivial throat trouble. The father was one of the finest men I have ever seen in my life, and was in the best of health. The next evening I was at a theatre when his physician came into my box and said: "Come at once to X. Y.; he will require tracheotomy immediately." I said, "Impossible, I saw him yesterday and he was perfectly well." He said, "You will not say so when you see him." Tracheotomy had to be performed that night, and he died in three days.

In briefly describing the course of the clinical events I wish you to understand, that with the exception of the very worst, the "lightning" cases, the affection, even though apparently most threatening, may undergo retrogressive changes and end in recovery at practically any stage. Unfortunately, however, these very worst cases are, comparatively speaking, but too numerous. The onset of the disease usually is manifested by a rigor, followed by a quick rise of temperature; sometimes there is but slight shivering; in other cases even this is absent. First, I shall speak of the more frequent class of cases, namely those in which the disease begins in the pharynx. The first symptom is an ordinary sore throat or tonsillitis, just as in the case I read at the beginning of this lecture. The patient complains of violent sore throat, and in the course of a few hours grave dysphagia supervenes. If you examine the patient at that stage, you see either simple congestion, or, in the more severe cases, infiltration, or even considerable oedema of the parts. In a good many cases a particularly bluish, sometimes almost dark blue, hue will warn the experienced observer to be on his guard that this is not an ordinary sore throat, and that something more serious may be developing. As already stated, everything depends in these cases upon the amount and the virulence of the invading micro-organisms and upon the power of resistance of the tissues. In the slightest cases the affection may merely reach this stage, and after a day or two become retrogressive. Under such circumstances you would probably speak of an ordinary or violent inflammation attended by some oedema of the palate, uvula, or tonsils, and would hardly think that affection had been septic at all, but even in these slight cases, apart from the appearances, you will often find your patient

weaker and more debilitated than after an ordinary sore throat.

In the more severe cases a few hours after the initial pharyngeal symptoms, the dysphagia passes over into complete inability to swallow, the patient becomes hoarse, and this hoarseness in turn quickly passes into complete aphonia. Again a few hours after the development of this aphonia, dyspnoea begins to make its appearance. If you examine the patient at this stage, you find the epiglottis very red, translucent, often bluish, enormously tumefied and sometimes looking like a big sausage rolled over the larynx, the interior of which it may entirely obscure. In other cases you are able to see that exactly the same changes have taken place in the arytaenoid-epiglottidean folds, and in the mucous membrane covering the arytaenoid cartilages. The dyspnoea quickly increases and in such cases usually necessitates tracheotomy often enough within twenty-four hours from the onset of the first symptoms. The infiltration need not be always equally distributed. In most cases of my own it certainly was spread all over the larynx, but in a few instances only one-half of the larynx was concerned, whilst the other side remained normal.

In the really severe cases the affection does not remain limited to the larynx. If so, by the performance of tracheotomy and the giving of stimulants, we might save our patients, but the saddest part of the disease is that it shows a tendency to extend to other parts. With regard to internal extension it is very rare that these affections spread into the naso-pharyngeal cavity, the nose, or even into the meninges. In the great majority of cases the inflammation travels *downward*, causing pneumonia, lobar, lobular, or patchy. It also has a particular tendency to attack the *serous* membranes of the body, the pleuræ, the pericardium, and—more rarely—the peritoneum, and it is astonishing in the most severe cases with what celerity all these events follow one another.

The most rapid, and one of the saddest cases I have ever seen, was the following: A gentleman went on June 4th to Eton, to celebrate that well-known date with his son, who was at school there. He returned in the evening in the best of health, but awoke the next morning early with a violent rigor, which was quickly followed by great difficulty in swallowing. He also perspired profusely. About 10 o'clock, when the difficulty in swallowing had increased to total aphagia, and when hoarseness had supervened, he sent for his family doctor, who found tonsillitis and

œdema of the larynx on the left side, with commencing pneumonia in both bases. The temperature at the time was about 104. The hoarseness rapidly increased, and soon amounted to complete aphonia. This again was quickly followed by difficulty in breathing, and in the early afternoon a serious attack of choking supervened. The general dyspnœa assumed such threatening dimensions, that the gentleman again sent for his ordinary medical adviser. I had been invited by the latter to a consultation at his own house for the same afternoon, and as I knew that only an affection of the singing voice was in question, had taken nothing with me but a laryngoscope and some mirrors. On arriving at the doctor's house I found a hasty note scribbled in pencil, asking me to come at once to meet him at his other patient's residence. There I found, beside the family adviser, an eminent surgeon, who had been sent for, because tracheotomy seemed unavoidable. There was no longer any swelling of the left tonsil to be seen, but the whole pharynx was still bluishly discolored. The epiglottis and arytenoid cartilages, too, were bluishly discolored, enormously œdematous, and covered by frothy secretion. The dyspnœa at that time was moderate, but there was some stridor. The patient, who was sitting upright in bed, covered with perspiration, and in great distress, constantly expectorated partly rusty, partly hemorrhagic sputa. Examination of the bases of the lungs was impossible owing to the patient's condition. We all agreed as to the extreme seriousness of the prognosis, and decided not to perform tracheotomy unless absolutely necessary. Before the surgeon departed, I begged of him to leave his tracheotomy instruments behind. He nodded assent, but unfortunately he was rather deaf and evidently did not understand me, because on leaving he took his tracheotomy instruments with him.

I too was about to leave the house when the family doctor asked me to speak to the patient's wife who was opposed to *any* operation, about the possible necessity of tracheotomy. I assented and went to the lady's room to talk the matter over with her. I had hardly begun when the door was opened, and the family doctor called: "Come, he is choking." I followed and found the patient moribund. I asked permission to perform tracheotomy. They assented. I did the tracheotomy with a penknife, and succeeded in rapidly opening the trachea whilst calling out to the daughters of the patient to bend some hairpins, by means of which I held the sides of the trachea asunder. The medical adviser meanwhile

carried out for fully 15 minutes artificial respiration, but the patient was dead.

In that case the whole disease did not last eleven hours. That is the most ghastly of all the cases I have seen, but I look back upon a number of cases in which, though the disease did not pursue so rapid a course, it was equally fatal. In most of these severe cases death ensues on the third or fourth day under signs of increasing coma and heart failure, whilst in a few cases epileptiform convulsions, delirium, irregularity of heart and pulse action are amongst the first symptoms, showing that the brunt of the infection has fallen upon the central nervous system.

If you come across this class of cases, and if you find rapid extension of the inflammation of one part to another, you should be very guarded with regard to your prognosis, and not speak of "complications supervening," remembering from the very first that what you see is only the beginning of one and the same rapid infectious process gradually extending to other parts of the body.

It is characteristic of these cases that while development takes place so quickly, retrogressive changes take place with equally astonishing rapidity. While on the first day you may have seen the larynx changed into an enormous œdematous mass, and while on the second or third you find the patient battling with pneumonia, pleurisy, or pericarditis, you may at that time merely see a wrinkled condition of the mucous membrane of the larynx, as the only remnant of the violent infiltration of a day or two previously; so quickly does this exudation in these cases sometimes disappear. In view of this fact never look upon a case as necessarily fatal except in the very severest cases! There is always a chance that even pneumonia, pleurisy, and pericarditis in these cases may become retrogressive, and after you have been in great anxiety for days and weeks, ultimately your patient may recover, but under all circumstances these cases are to be taken extremely seriously.

In conclusion of this part of my lecture I need hardly say, that exactly as in diphtheria, in a number of cases the larynx is the part *first* affected and the pharynx entirely escapes.

With regard to the treatment of these cases. Up to recent times we have been very powerless indeed. Of course one does give the usual anaesthetics, iron, quinine, strychnia, champagne, cognac either by the mouth, or—when the patient cannot swallow, as usual in the early stages—by means of rectal injections. You also may have to make other injections to main-



tain the patient's ebbing strength. All that is, I am sorry to say, of little value so far as the combating of the septic process itself is concerned. Of equally little worth are external applications, cold compresses, the Leiter's tube of ice water round the neck, etc. Should there be anywhere distinct fluctuation or even merely justifiable suspicion of such, you will, of course, incise upon such foci, and, equally of course, you will perform tracheotomy, as soon as threatening dyspnoea makes its appearance. Instead of tracheotomy intubation may be tried, though of course the intubation-tube will not find a comfortable resting place on the enormously distended structures of the larynx. If, however, it should succeed, it will spare the patient an additional external wound. Our promise for the future must rest on the fact that we have to deal with a bacterial infection, and that by the injection of an appropriate antitoxine we may be able to save the patient. The great crux of the whole question, however, remains in the fact that it is not always the *same* micro-organism which causes this trouble, and that there are, as I have endeavored to show you, quite a number which may cause it. The difficulty is, first, that at the present time we have not an antitoxine against every one of these various micro-organisms, and secondly, that even that one, which most frequently causes these septic inflammations—the streptococcus pyogenes—consists of a number of varieties, not absolutely identical with each other. If, therefore, you make an injection of a certain antistreptococcus-serum into a patient who has been infected by a different variety of streptococcus, the result may be very disappointing.

Under these circumstances the idea has arisen to obtain an antistreptococcus-serum, prepared not from one definite bacterium only, but to use "polyvalent" sera, that is to say, to unite cultures of various streptococci into one serum, in the hope that if not one, yet another may represent the proper antidote in the given case. A few patients have actually been saved in this way, and it is, therefore, your duty to try this treatment to save an otherwise lost patient. In serious cases, in which you are unable to ascertain immediately the nature of the pathogenic organism, which has caused the disease, I think, that at present you may even go so far as to make at once on chance an antistreptococcus injection in powerful doses—20 c.c. to begin with—and if necessary to repeat this two or three times a day. You cannot do any serious damage, and you may possibly save the patient. I give this advice because I have been particularly unlucky in some

of my cases in having been called into the country in great haste late at night. You find your patient suffering from one of these septic inflammations. How are you to make your cultures? How are you to know which is the particular organism which has caused the disease? Yet, delay would probably further diminish the patient's chances. I say, therefore, by all means, try and secure the bacteriological diagnosis *first*, if that should be possible, but if not, inject the antistreptococcus serum on chance!

One case of my own and some of Mr. Philip de Santi's, who has recently written about this subject, have been saved by the injection of antistreptococcus serum, and until we have more uniformly reliable treatment, use this, and may your efforts be crowned with greater success than my own, alas, have been!

In conclusion, I wish to say one thing more about the obscure affection called angina Ludovici. The name given to that disease is that of the man who first described it, an old Würtemberg practitioner, Dr. Ludwig, who flourished about 1830, that is to say, at a time when our notions of pathology were very different from those we entertain to-day. He happened to see a number of cases in which there was extensive brawny infiltration of the neck, and as he found nothing of the kind mentioned in the text-books, he described it as a new disease. In reality it represents nothing but an infiltration, sometimes serous, sometimes purulent, sometimes gangrenous, of exactly the same nature as you see in a septic pharyngitis or laryngitis. It will in many cases simply depend upon the question at what stage of the disease you see your patient first, as to whether you may, according to present terminology, speak of the case as angina Ludovici, oedema, erysipelas of the larynx, or as phlegmonous laryngitis or pharyngitis. The infiltration of the neck may just as well precede as follow the infiltration of the internal structures. If I have made this clear to you, you will, I hope, drop these designations and henceforth simply know these affections as acute septic inflammations of the throat and neck.

#### CHOLECYSTITIS: ITS DIAGNOSIS AND TREATMENT.\*

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Inflammation of the gall bladder, or of the gall ducts, is now a disease so constantly brought to

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the attention of the physician and surgeon, that it has assumed a place second in importance only to that of appendicitis, in the diagnosis of intra-abdominal affections; and I feel it is not only an honor, but a very great privilege to be allowed to address you this evening, and to present for your consideration some thoughts derived from somewhat extensive operative experience in the treatment of acute abdominal affections.

Formerly, jaundice was looked upon as a condition without which there could be no disease of the bile passages; we now know, however, through the researches of Ewald (a) and others, that it is absent in from 25 to 30 per cent. of all cases, and we have come to place much more reliance on the history of the case and the physical signs, than on the symptoms, such as pain, vomiting, and jaundice.

Obstruction to the cystic or common duct which has once existed, is apt to persist in greater or less degree, and a recurrence of the affection may be expected in a large proportion of the cases. The presence of gallstones can rarely be diagnosed with certainty before the abdomen is opened, unless some have passed by the bowel; and even then the stones may all pass, yet leave a distorted and inflamed duct behind, which will cause subsequent trouble.

Frequent attacks of cholecystitis lead to contraction of the gall bladder, and in rare instances it may even be converted into a fibrous cord, so that the inexperienced operator might be disposed to consider it congenitally absent. These recurring attacks may be due to the advent of fresh infection from the intestinal tract, or to the unavailing efforts of the gall bladder to expel a calculus. Jaundice in such cases is almost invariably absent, as only the cystic duct is involved, and discharge of bile into the duodenum continues. Obstruction of the cystic duct may, however, be secondary, resulting from the extension of inflammation along its walls from the common duct; or it may be obstructed by the kinking produced by adhesions, or by pressure from the outside, as in infective swelling of a lymphatic gland, three or four such glands occupying the right free border of the gastrohepatic omentum, one of which lies in contact with the duct.

When a patient with recurrent pain in the right hypochondrium presents likewise resistance to palpation in this region, as well as greater tenderness than in other regions of the abdomen, we are usually warranted in inferring that the inflammation has penetrated the gall bladder, and

that a serous cholecystitis, or localized peritonitis exists. If, in addition to these symptoms there is fever and very pronounced tenderness, one is warranted in making the diagnosis of purulent cholecystitis. Added to the above in a few days we may have the evidences of a distended gall bladder, as shown by an increasing tumor on the lower liver border, a tumor which as we all well know, moves with respiration, and which when palpated can be displaced backwards as well as from side to side, but which on removal of the palpating hand tends to resume its original position, which presents, in short, a pendulum-like mobility. If the gall bladder has become contracted from previous attacks of inflammation this tumor will of course not be large; but as a rule its rounded outline, and pear-like shape, together with its characteristic mobility, render a mistaken diagnosis very unlikely. The typical contour of the tumor may, however, be much altered by adhesions between the gall bladder and neighboring structures, or by surrounding masses of infiltrated omentum.

Frequent attacks of inflammation that have not gone on to suppuration will result in a thickened gall bladder, the walls in marked cases becoming nearly half an inch thick. This condition is sometimes seen where there is a stone in the common duct, the stone having been expelled from the cystic duct and gall bladder in some of the previous attacks of cholecystitis. Upon more than one occasion I have met with calcification of the gall bladder walls consequent upon long standing inflammation.

The chief signs of inflammation of the gall bladder are pain and enlargement. Acute inflammation is a natural explanation of the pain in acute cases; but pain is also present in more or less chronic cases, and is to be attributed to passive distention of the gall bladder with tenacious and ropy mucus. The passage of a gallstone into or along the duct causes colicky pain, but the pain of inflammation is fixed, intense and burning.

I have already stated that I do not think it possible in the majority of instances to diagnose the presence of calculous cholecystitis before the abdomen has been opened; yet calculi are present in the great number of cases, and as a rule the patient with calculi is in a more precarious condition than one without.

Various micro-organisms have been found in cases of cholecystitis, as has been shown by Dr. Müller. That most frequently present is the common colon bacillus, but in the suppurative forms the staphylococcus pyogenes aureus and albus, or

the streptococcus may be present; and the pneumococcus and the bacillus of Eberth have also been found.

When the inflammation is confined to the mucous lining of the gall passages, acute symptoms are not as a rule produced, nor is the life of the patient jeopardized. It is this type of cholecystitis, whether calculous or non-calculous, that is especially benefited by a sojourn at Carlsbad, and by the treatment there administered. The rationale of this treatment is that the water from the springs improves the portal circulation and the condition of the liver, by lessening the gastric and intestinal congestion; and thus indirectly the catarrhal inflammation of the bile passages is relieved, and the likelihood of interstitial or serous cholecystitis is much diminished.

Adhesions around the gall bladder are a prolific source of trouble. As already remarked they may be the cause by dilatation of the gall bladder, by kinking or compressing its ducts, even after all calculi have been expelled. But more than this a persistence of symptoms after operation may be erroneously thought to be due to the surgeon's having left a stone behind, impacted in the cystic or the common duct, and yet the recurrent pain and persistence of biliary fistula be really due to pericystic adhesions. I have had this trying experience myself on several occasions, and it has been difficult to make the medical attendant, with whom I have been in consultation, believe that gallstones were not the cause of the attacks of pain. In some of these cases only subsequent operation for the relief of adhesions and the demonstration of the empty gall bladder have convinced the medical attendant that I was correct in my opinion.

Another source of confusion to which such adhesions may give rise, is the fixation of the gall bladder, so that it no longer presents its typical pendulum-like motion. In cases where there have been one or more attacks of cholangitis resulting in adhesion of the liver to the parietal peritoneum, the degree of movement presented by the gall bladder is likewise very much restricted.

Enlargement of the gall bladder may be simulated at times by enlargement of the overlying portion of the liver, constituting what is known as Riedel's lobe. We must also always bear in mind the likelihood of an accumulation of fecal matter in the hepatic flexure of the colon, particularly in the presence of an inflamed bowel wall. It can be readily understood, therefore, that in the presence of certain of the above named con-

ditions it may be quite impossible to diagnose a swelling in the right upper abdominal quadrant as due to gall bladder in part or alone.

The conditions with which cholecystitis are most likely to be confounded are, appendicitis, especially the terminal variety, when the appendix is pointing north; abscess formation consequent upon perforation of the colon; pyloric or duodenal ulcer with abscess formation near the site of the perforation; subphrenic abscess; diaphragmatic pleurisy; pneumonia, and inflammation of the head of the pancreas.

The symptoms of acute cholecystitis which resemble an attack of appendicitis, are pain, tenderness, and rigidity; but the location of these symptoms in the two diseases is different. In appendicitis, as we well know, the initial pain is usually umbilical or epigastric, but soon settles to the right iliac fossa; whereas in cholecystitis the initial pain is more frequently felt in the upper right quadrant, but may be referred to the epigastrium; it is usually increased by inspiration, by coughing, by sudden movements of the overlying muscles. Tenderness in cholecystitis is below the costal border, about the tip of the ninth costal cartilage; in appendicitis it is at McBurney's point. The vomiting in cholecystitis is more apt to be persistent, whereas in appendicitis vomiting usually ceases as soon as the stomach is emptied. Rigidity in gall bladder disease is in the upper half of the right rectus muscle, in appendicitis it is in the lower half. Following shortly upon the development of pain, nausea and vomiting there may occur in either condition prostration or collapse, depending upon the type of the inflammation; but the marked tenderness and rigidity in the gall bladder region will satisfactorily exclude disease of the appendix. When the peri-cholecystitis has advanced further, the duodenum, colon, and even the small intestines may be involved in the peritonitis, and the case may resemble acute intestinal obstruction from the amount of distention, the recurrent vomiting, and the inability to have the bowels moved or even to pass flatus. By the time, however, that the inflammation has extended to this degree there will in all probability be enlargement of the gall bladder, which may be palpated; and a differential diagnosis can be made by observing the presence of fever and increase pulse-rate in the case of cholecystitis, while in intestinal obstruction the temperature is normal or subnormal, and the pulse rate not markedly accelerated, until general peritonitis supervenes. The difference in location and in character of the tumors serve to

distinguish dilatation of the gall bladder from peri-appendicular abscess. But where the appendix points north, and its tip is in fairly close relation with the liver, the distinction between the two affections is not so easy; but careful attention to the history of the case, its mode of onset, and strict physical examination often renders the diagnosis possible.

The few patients with perforated pyloric and duodenal ulcers upon whom I have operated, have presented symptoms which enabled disease of the gall bladder to be excluded; but from the conditions I found at operation I can readily understand that if seen for the first time a day or so later, the diagnosis might have been very difficult. In each case there was a small collection of pus around the perforation, lying in the near neighborhood of the gall bladder, and this structure would undoubtedly soon have become inflamed by contiguity. The history of the case I think would be the most reliable feature upon which to depend in distinguishing one disease from the other.

Subdiaphragmatic abscess I have never seen as a primary affection—it has always been secondary to appendicitis, cholecystitis, cholangitis multiple, or some other liver abscess, intra-abdominal affection, and, as such, has generally been diagnosed from the clinical history of the case.

Diaphragmatic pleurisy and pneumonia never cause a local swelling, such as is produced by distention of the gall bladder; nor do they present the usual characteristics of an abdominal affection. Physical examination of the chest should never, however, be neglected in doubtful cases.

Pancreatic disease is a much rarer affection than cholecystitis; it is deeply seated, and when it gives rise to a tumor this tumor is fixed, does not move with respiration, and may usually be shown to be posterior to the stomach and colon.

Leucocytosis is present in the majority of instances of acute cholecystitis, yet its absence in the presence of other well known signs does not by any means negative the diagnosis. I have seen a number of cases of purulent cholecystitis (the pus collection being not only in the gall bladder, but among the surrounding structures), in which leucocytosis was absent; yet to defer operation merely for this reason would be to consign our patients to an early grave. Ewald remarks that empyema of the gall bladder has no hyperleucocytosis.

In deciding upon the proper treatment of a case of cholecystitis, the constitutional condition

of the patient should be borne in mind. That class of cases, which, so far at least as one can diagnose without actual inspection of the parts, are catarrhal inflammation of the gall bladder, which do not give a history of previous attacks of gallstone colic, and in which there is an absence of active local symptoms, such as tumor, marked rigidity, decided tenderness, and so forth—such a case, in my opinion, will do well under medical treatment. Especially is this the case with those attacks of cholecystitis which arise during the course of typhoid fever. These cases in my experience rarely call for operation. The majority of them progress favorably, and the distention of the gall bladder subsides, due, as I believe, to the fact that the cystic duct was occluded only temporarily by catarrhal exudation. The cases which I have operated on have for the most part shown calculous obstruction in the cystic duct, with stones in the gall bladder. The same condition, I may add, has been present in those cases of pneumococcus infection where I have operated.

The surgical principles governing the treatment of acute infective disease are: (1) The establishment of a free exit for the infected material, in this wise lessening the chances for further absorption and consequent extent of mischief; in other words, the emptying of a house of a bad tenant, the earlier a bad tenant is gotten rid of the better for the house. On the same principle the earlier the operation in acute cases of abdominal infection the less extensive are the operative measures required and the more rapid and complete the recovery; the simpler the operation the fewer are the chances for the patient not recovering.

Acute infections on the surface of the body arise as a rule from direct inoculation from without, while in acute intra-abdominal infection, injury or disease of the alimentary tract, bile passages or the female genital organs, from within. Intra-abdominal infections are preceded by a stage in which the disease is purely local, and if detected can be rendered harmless by a comparatively simple operation. It has been well said that the aim of the surgeon should be to operate while the disease is still local for the same reason that the surgeon should not defer operation upon an infected finger until the tendons had sloughed, the axillary glands supplicated and the patient presented all the general symptoms of infection. The rule that is applicable to infections on the surface of the body is applicable to infections within the abdominal cavity, therefore

the surgical principles are not in any way altered from the difference in location of the disease.

When I am asked to see a case of cholecystitis arising in the course of typhoid fever, I am not unmindful of the systemic conditions present, due to the fever. This condition is a serious handicap to the favorable outcome of the operation, in the majority of instances at least. I am not in accord with those of my colleagues who believe that every case of cholecystitis occurring in typhoid fever should be operated upon, for I have followed too many cases to a sure convalescence without operation, to be at all times influenced by the demands of the attending physician against my better judgment in deciding against operation in most of these cases.

In many of the cases pain is referred to the stomach region, not to the region of the gall bladder. In obscure cases, where the diagnosis is uncertain between gall bladder and stomach disease chemical examination of the stomach contents is important. We know that in most cases of gastric ulcer, erosion and nervous neuralgia of the stomach there is hyperacidity and hyperchlohydria. If hyperchlohydria is present during the attack of gall bladder pain, it disappears with the subsidence of the gall bladder inflammation (this refers more to gall bladder colic). Bilious vomiting with, in some instances, intestinal contents, is more likely to occur in cystic duct obstruction by a stone, the bile therefore not being able to pass into the gall bladder flows continuously into the intestine; the discharge of bile into the intestine under these circumstances does not depend upon contraction of the gall bladder during digestion, as in the normal condition, but is the result of pressure, the bile in the biliary passages overcoming the resistance offered by the papilla of Vater. Harrington has remarked that "good surgery is the degree of benefit afforded the patient by operation and not the ability to perform successfully the work undertaken."

While I thus advise medical treatment only in the catarrhal form of acute cholecystitis, I think that the medical treatment of acute sero-purulent cholecystitis is attended by far greater dangers than the operative treatment. Operation is imperative in nearly all cases of acute cholecystitis, the exceptions being cases occurring in the presence of typhoid fever and where the disease is not seen until after the symptoms are gradually subsiding; under the latter circumstances it may be justifiable to defer operation. At all events these cases should be where they can be closely watched, when, if the temperature keeps with-

in moderate limits, the pulse being of good quality and not rapid, the peritonitis remaining circumscribed and subsiding from day to day, then one is justified in deferring a longer time.

The operative treatment of cholecystitis is fairly well settled, namely, exposure through an incision carried through the rectus muscle, opening of the gall bladder, evacuation of its contents and drainage. I have for some time ceased doing these operations at two sittings, by which I mean simply contenting oneself with drainage and removing the stones which are accessible. Irrespective of gangrenous cases, the only fatalities that I have had in acute cholecystitis have been where I failed to relieve the cystic duct of calculous obstruction; the consequence being failure to establish bile drainage, and the patients either suffering from cholangitis at the time of operation or developing cholangitis afterwards, death was an inevitable result.

It has been my practice for some time not to terminate an operation until I had relieved the cystic duct of its obstruction, whether due to a stone, to kinking or to inflammatory occlusion. If there is present a stone which I have not been able to carry back into the gall bladder, I cut down upon the stone, remove it and suture the wound; and where the condition of the gall bladder permits of its being retained, drainage is established in the usual way. I also make the same effort when the obstruction is due to kinking or inflammatory thickening of the walls of the duct. In other words, I take exception to the removal of the gall bladder in cholecystitic cases, except in those cases, as for example gangrenous cholecystitis or in suppurative cholecystitis with positive damage to the entire gall-bladder wall. In quite a percentage of the latter class of cases we will find it possible to retain a great part of the gall bladder, which I invariably do.

I believe that the gall bladder is an essential part of the hepatic apparatus, otherwise Nature would not have made it, and being a great respecter of Nature I am very slow to oppose her; while on the other hand, I do believe that the cure obtained by the judicious application of the aseptic scalpel of the surgeon in many instances excels Nature's cure. I entertain the same views in connection with the appendix as those recently exploited by Sir William Macewen when he has described it as his opinion that the appendix has a valuable function as a part of the digestive apparatus. I have always thought it unwise, yea, I may say meddling, on the part of surgeons to remove the appendix in performing an abdominal

operation for some other trouble, simply because the appendix was so accessible, and I entertain the same view in connection with the gall bladder.

The technic of drainage of the gall bladder which I employ is that which I deem in most common use; rubber tube and purse-string suture, reinforced by gauze drainage, which in turn is sutured to the gall bladder a short distance beyond the introduction of the tube, the latter may be covered by rubber tissue, which I believe is a considerable advantage.

In cases of phlegmonous or gangrenous cholecystitis where cholecystectomy is indicated on account of the great destruction of the gall bladder, and it is hopeless to attempt to retain it in part or its entirety, I still prefer tube and gauze to drain the operative field with rubber tissue, after the manner of draining the gall bladder.

I invariably close the abdominal wound by tier suture, using chromicized catgut for this purpose, in addition to two or more through and through silk-worm gut (splint) sutures. I may say, too, that I am in the habit of using the sand pillow beneath the border of the lumbar region, and in partially dislocating the liver where this is feasible, which makes the operative field more accessible.

I, too, lay great stress upon the proper placing of gauze pads and large and small sponges; for, notwithstanding the fact that I have been taken to task before one or two medical bodies for what might be considered the too free use of gauze packing, I am to-day as strong, if not stronger, in my belief of its importance than I was when I commenced this practice; therefore, the remarks of the different gentlemen who have taken exception to my methods have not had any effect upon changing my practice.

The after treatment of these cases is as essential as the operative treatment. The two most important points in this after-treatment are—to leave the patient alone, by which I mean, give him as little medicine as possible, and if occasion requires from persistent nausea and vomiting, the systemic use of the stomach tube. The only drug which I do give after operation, and which I may remark is but rarely called for, is an occasional dose of morphia, not more than one-twelfth to one-sixteenth of a grain given hypodermically. It is my experience that rarely more than one or two doses are required to make the patient comfortable.

The practice of purging the patient after abdominal operations, in the majority of instances at least, I think is pernicious. I take strong ex-

ception to the routine practice of giving calomel followed by salts. In a weak patient, much debilitated by the disease having existed for several days, therefore septic, I do allow strychnia, not in heroic doses, however; and I think normal saline solution by the bowel a useful remedy in such cases.

### THE PATHOLOGY OF CHOLECYSTITIS.\*

BY GEORGE P. MULLER, M.D.,

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I do not intend to take up your time with a routine description of the pathologic changes which may occur in a gall bladder, the seat of inflammatory lesions, but rather to dwell more particularly upon certain points in the bacteriology of cholecystitis, and the influence which the bacteria may exert upon the walls of the gall bladder as I have observed them in the Pathologic Institute of the German Hospital.

When we consider the anatomical relations of the biliary passages it is apparent that the gall bladder through its cystic duct communicates with the duodenum below and the liver above, and can therefore be infected:

1. Ascending along the common duct, from the duodenum.
2. Descending in the bile from the liver.
3. Through the vascular and lymphatic system of the gall bladder.

1. Invasion of the common duct has been and is considered as the most frequent source of bacterial infection. We do not know precisely how this infection occurs, but surmise that some transient obstruction of the terminal portion of the common ducts admits the bacteria into a stagnant column of bile from which they are swept backwards into the gall bladder. Under normal conditions the continuous expulsion of bile which has no nutrient properties should suffice to prevent any injurious bacterial activity, but the influence of factors inhibiting the freedom of the bile movement and favoring stagnation may distinctly predispose to gall-bladder disease. Attenuation of the bacteria may occur, but this, as is well known, is one of the most important factors in experimental gall-stone production. I have always been impressed with the fact that suppurative pancreatitis occurs in such a small proportion of cases of infection in the biliary tract.

\* Read at a meeting of the Brooklyn Medical Society, Nov. 18, 1904.



2. Bile may commonly be infected from the intestine by way of the portal circulation.

Blackstein (a) as long ago as 1891 injected bacteria into the general venous system and recovered them from the bile, and Adami (b) writing upon this subject, says that we may assume: (1) "That the colon bacilli in small numbers in healthy individual are constantly finding their way into the finer branches of the portal circulation; and (2) that one of the functions of the liver is to arrest the further passage of these bacilli into the general circulation and to destroy them through the agency of the specific cells of the organ. Then if the action of the liver cells has been disabled by the toxic products of the bacteria these may reach the bile and spread through the gall bladder and ducts."

More recently Lartigau (c) has studied the question and experimentally has obtained some interesting results.

After causing an enteritis of the intestine of dogs by means of corrosive sublimate or arsenic the animals were fed with bacteria, which were soon found in the bile. Even after ligation of the common duct this infection occurred.

Carmichael (d), however, denies the probability of biliary infection by way of the portal circulation and believes that the liver destroys the micro-organisms that reach it.

Clinically, attention has been called by Ochsner (e) and others to the association of gall stones and appendicitis, but in the rather extensive series of gall bladder operations performed by Dr. Deaver, we have found but one case in which the bile infection might be directly traceable to a diseased appendix, while upon the other hand in several thousand operations upon the appendix the connection is quite as limited.

3. Through the vascular and lymphatic system of the gall bladder.

Infection of the general circulation by bacterial foci probably accounts for some of the infections of the gall bladder. The cystic artery is capable of a great amount of variation in its method of distribution, the larger branches ramifying in the fibro-muscular layer. Some of the veins on the surface of the gall bladder in contact with the liver anastomose freely with branches of the portal vein.

Investigators who have studied the lymphatics of the liver by injection, find that under very low pressure the injection mass introduced into the portal vein or hepatic artery flows with great ease

"from the capillaries at the periphery of the lobule as well as from those around the sublobular vein into the lymphatics" (Mall).

Furthermore, it is well known that considerable lymph is constantly flowing from the liver, reaching the perivascular lymph spaces by direct filtration through the fenestrated capillary walls. This lymph is either collected into the vessels which accompany the branches of the portal vein or the hepatic veins and emerge at the point of entrance or exit of the vessels, terminating in the glands of the hilum or else flows toward the surface of the liver passing underneath the peritoneum and terminating in glandular groups.

The lymph reaching the surface of the inferior portion of the liver passes in considerable part to the gall bladder, the lymph vessels anastomosing freely upon the surface of the latter and communicating with a network of lymph channels in the subserous coat. These lymphatics empty into the glands situated at the hilum.

It is reasonable therefore to conclude that infection from the portal vein may reach the gall bladder through the superficial collecting lymphatics as well as from the bile. I have accordingly ventured to believe that the course of the following case can be explained by this method of infection better than any other.

The patient, a girl of 15, was admitted to the Maternity Wards of the Philadelphia General Hospital on June 26, 1904, and on September 15th was delivered with some difficulty of her child. Two sutures were required to close a tear in the perineum. She seemed to make an uneventful recovery from her confinement. On the night of September 27th she was suddenly seized with acute colicky pain low in the right hypochondrium, nausea and vomiting. An ice bag was applied and calomel administered. The following morning the acute symptoms had somewhat subsided, but there was marked, intense tenderness low in the hypochondrium. The temperature that evening was 101.2-5, pulse 90.

Her condition remaining unchanged by the following afternoon, nearly 48 hours after onset, she was referred to the surgical division, service of Dr. Charles H. Frazier, where I saw her. We found a history of typhoid fever one year previously, exquisite tenderness over the gall bladder region, and a round, tense, tender tumor moving slightly with respiration, beneath the lower lobe of the liver, two inches below the

costal margin. There was no evidence of jaundice. The leucocytes numbered 16,000.

I was indebted to Dr. Frazier for the privilege of operating upon the case.

Upon opening the abdomen the gall bladder was found to be distended, markedly thickened and covered with patches of a greenish yellow exudate. The attachment to the liver was close and the latter organ showed the appearance of a perihepatitis, with distinct anastomosing whitish lines, like dilated lymphatic vessels. Upon opening the gall bladder 120 c.c. of slightly viscid bile, dark in color, was aspirated and the walls of the gall bladder observed to be about 7 m.m. in thickness, and edematous. The mucous membrane was deeply congested, but not ulcerated. The gall bladder did not contain any calculi, and an examination of the cystic duct with the finger made me believe that that also was clear of stones, though much thickened and inflamed. The gland at the junction of the cystic and common duct was much enlarged. Palpating along the course of the common duct failed to reveal any calculi. These examinations were made rapidly as the patient's pulse was failing, and the operation completed by introducing a rubber tube into the gall bladder, a Mikulicz drain sutured to its neck and a small gauze pad placed between the gall bladder and the peritoneal cavity.

The patient made a rapid recovery, except for some colicky pain on the second day. The bile drainage occurred both through the gauze and tube but did not begin for several days. On the tenth day the rubber tube loosened and was removed, and in its lumen a small mulberry shaped, non-facetted gall stone about 4 m.m. in size was found. Her fistula closed in three weeks.

The bile aspirated was cultured by Dr. Rosenberger and the *B. coli communis* found in pure culture.

The absence of jaundice at any time, the sudden onset with the marked pathologic alterations found in the gall bladder after only forty-eight hours duration, the absence of the physical appearance of pus in the bile, and of ulceration of the mucous membrane seem to warrant the assumption that the infection was probably carried to the walls of the gall bladder by the collecting lymphatics of the liver from the portal veins. The stone was evidently formed during the time following the attack of typhoid fever and was enclosed in the inflamed neck of the gall bladder, dropping back as the inflammatory condition subsided.

I have constantly referred to the infectious nature of cholecystitis, and of course it is clear to you that the modern idea makes practically every case of cholecystitis to be of microbic origin. The bacteria chiefly responsible for the inflammatory process are the *B. coli communis*, *B. typhosus*, *staphylococcus albus* and *aureus*, and the *streptococcus pyogenes*.

W. Peterson (f) "in 50 operations for gallstones found bacteria in the bile 44 times. In 36 instances the bacillus coli was found, six times this bacillus was associated with the *staphylococcus aureus*, and in 4 cases the *streptococcus pyogenes* was the companion of the bacillus coli." Hartmann (g) examined the bile in 46 cases of cholelithiasis treated by operation. In 34 bacteria were found; *B. coli*, 23 times; in 3 the *staphylococcus pyogenes aureus*; in 2 *streptococci*; in 1 the *staphylococcus pyogenes albus*; in 2 the *B. coli* with *staphylococcus*; in 3 *streptococci* with other organisms. The bile was sterile in 10 examinations.

In the last 50 cases in which a culture was made of the bile in various gall bladder lesions operated upon by Dr. Deaver, we found bacteria 29 times, the colon bacillus 19 times, the typhoid bacillus 6, *staphylococcus albus* 2, *staphylococcus aureus* 1, and *streptococcus pyogenes* 1, respectively.

Grouping these three findings we have 144 cases from 107 of which cultures were obtained.

|   |                |
|---|----------------|
| <i>B. coli</i> . . . . .                          | 78 times (73%) |
| <i>B. typhosus</i> . . . . .                      | 6 "            |
| <i>Staphylococci</i> . . . . .                    | 7 "            |
| <i>Streptococci</i> . . . . .                     | 1 "            |
| <i>B. coli</i> and <i>staphylococci</i> . . . . . | 8 "            |
| <i>B. coli</i> and <i>streptococci</i> . . . . .  | 4 "            |
| <i>Streptococci</i> , etc. . . . .                | 3 "            |

The influence of the typhoid bacillus upon the production of gall bladder inflammation deserved more than a passing mention. It is probable that in the majority of the cases of typhoid fever the infecting bacillus passes with the bile into the gall bladder, producing more or less inflammation of the walls of the organ with desquamation of the mucous membrane. Clinically, we frequently observe tenderness in the right hypochondrium and occasionally a distinct swelling. The infection subsides without the need of surgical interference, though in many reported instances the

bacilli persisted for years in the gall bladder. Musser (h) believes that many cases of so-called relapse in typhoid fever are really cases of cholecystitis following typhoid fever.

Gilbert and Girode (i), in 1890, first observed the suppurative action of the typhoid bacillus, and a few others have reported cases in which this micro-organism has caused suppuration in a patient who has never had typhoid fever.

Of the six cases of typhoidal cholecystitis observed in the German Hospital and operated upon by Dr. Deaver during 1903 and 1904, several facts are of great interest. In two, the typhoid infection was evident, convalescence occurring about a month, in each case, before admission. They were sent to Dr. Deaver because of pronounced symptoms referable to the gall bladder, which from the history seemed to indicate the presence of gallstones for some time antedating the typhoid attack, the latter undoubtedly producing a violent acute cholecystitis. Dense adhesions were encountered, uniting the biliary tract to the duodenum, omentum, colon or pylorus; the gall bladder wall was thickened, friable and edematous, the mucous membrane intensely red, ulcerated, necrotic in patches and bathed by a dark mixture of bile and pus. In both cases well formed stones were encountered, and in both the cystic duct was occluded, in one by a stone, in the other by inflammatory swelling of the spiral mucous membrane.

In both of these cases the clinical picture was simply one of severe suppurative cholecystitis occurring at the end of an attack of typhoid fever.

A third case was of great interest. This patient, a woman 27 years old, positively denied any possible attack of typhoid fever, the only points of interest in her history were the facts that her mother had suffered from cholelithiasis, and the occurrence of three attacks of diphtheria, the last nine years before admission to the German Hospital (3-11-04). She was quite well until three weeks before admission, when she was suddenly seized with violent acute pain over the region of the gall bladder and radiating to the back and right shoulder. The attack was ushered in by chills, fever, sweating and much vomiting, with slight jaundice.

The pain lasted for eleven days, requiring the frequent use of morphia. There was always exquisite tenderness over the gall-bladder up to the time of operation, which was performed by Dr. Deaver on March 13, 1904. An enlarged gall-bladder firmly adherent to the liver, duodenum

and omentum was found with thick, edematous walls, the mucosa was intensely congested and slightly ulcerated, and the organ contained about 100 c.c. of thick yellow pus. One calculus was found obstructing the cystic duct.

The pus from the gall bladder revealed the typhoid bacillus in pure culture.

In two other cases the history was similar, no history of typhoid fever, attacks of pain extending over several years, with a final severe attack of colicky pain, vomiting and jaundice. In both many stones were found in the gall bladder, which was distended and extensively diseased.

The sixth case resembled these except that a fistula had formed between the gall bladder and stomach. Vomiting was the most pronounced symptom, jaundice was absent and the gall bladder soft, contracted and ulcerated, but containing no stones.

In considering the pathologic lesions of the gall-bladder wall following cholecystitis I had hoped to be able to find different grades of disease depending upon the nature of the bacterial infection in these 50 cases. But after a careful consideration of the findings at the operating table and examination of such gall bladders as reached the laboratory, I fail to make any definite conclusions, except one, that the walls of the gall bladder infected by the typhoid bacillus were so extensively diseased as to require cholecystectomy in every case, whereas simple drainage was the most usual method of procedure in the others. This finding is only in accord with the well-known ulcerative lesions produced by the typhoid bacillus in other organs of the body.

Microscopically, these gall bladders revealed evidence of deep ulceration of the mucous membrane, necrosis of the lymph follicles and muscular coats and extensive cellular infiltration with edema of the space between the subserous and fibro muscular coats. The serosa was frequently covered with a plastic exudate.

The lesions in the cases due to infection by the bacilli coli varied within great limits, as did those where a culture of the bile remained sterile. In a few cases the gall bladder was simply distended, its walls thin and soft; in others the inflammatory signs were more marked, the mucosa thick with accentuated rugæ and hemorrhagic foci within the mucous membrane. The walls were thickened and edematous, the serosa having a blotchy appearance.

In many of these cases, and especially those with a stone in the cystic duct, the fundus of the gall bladder was much more diseased than the

proximal portion, necessitating a partial cholecystectomy.

Microscopically, the epithelium appears ragged from desquamation, the solitary follicles are hyperplastic, the vessels distended, the fibro muscular coat thickened by a connective tissue, proliferation and frequently the seat of interstitial necrosis.

In a few cases a gland was removed and revealed merely the evidence of acute lymphadenitis with marked hyperplasia and engorgement of its sinus and vessels.

Cholecystectomy brought a number of cases of chronic cholecystitis to the laboratory in which the walls were tough and fibrous, resembling parchment. The epithelium was very low in type, almost squamous, the different layers were blended into one, fibrous and only slightly vascular.

In all of the cases examined there was no relation between the lesion and the presence or absence of bacteria. The staphylococcus infections produced severe clinical symptoms, always with jaundice. The gall bladder from which the staphylococcus aureus was obtained was greatly ulcerated and contained many calculi, the albus infections were milder in their destructive action. All three were accompanied by considerable evidence of peri-cholecystitis in the nature of adhesions.

The streptococcus case was more one of diffused infection of the biliary tracts and gall bladder, the latter being normal in size, with but slight evidence of disease, microscopically, and containing a small amount of pus, no stones.

In this brief and hasty outline of the pathology of cholecystitis I have been content to record a few facts which we have noted at the German Hospital, and have by no means covered the entire ground. I am indebted to Dr. Deaver for the use of the clinical notes and for much aid in the study of the "living pathology" of the gall bladder. To Dr. Kelly I am under obligations for the use of the pathologic material. We intend in the near future to elaborate the results obtained from observation upon biliary tract disease in connection with some experimental work.

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#### TRANSILLUMINATION OF THE STOMACH.\*

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The first report of transillumination of the human stomach with a solution of flourescein appeared, so far as I am aware, in the *New York Medical Journal* of February 13, 1904. It was written by the originator of this particular method, Dr. Robert Coleman Kamp, and to the credit of the Doctor much of what I shall say regarding technique and so on will be due. Various substances which might increase the illuminating powers of a lamp in the stomach, such as quinine, a decoction made from the rind of the horse chestnut and flourescein have been tried. The last mentioned affords the best results. It is a naphthalin product, a deep red powder, and gives a greenish yellow color in mild solution. It is made of phthalic anhydrid 5 parts, resorcin 7 parts, heated to 200 C.; is soluble in alcohol and alkaline solution, but not in hydrochloric acid. For convenience I have it made up in  $\frac{1}{8}$ -grain tablets. Flourescein in stomach or circulation is absolutely harmless. The addition of glycerin was found to enhance fluorescence. Quinine administered in moderate dose for from 12 to 24 hours previous to the examination is said to add to the illumination, but I have repeatedly compared the method with and without quinine and cannot see that it materially improves the shadow. The maximum strength for this purpose is flourescein  $\frac{1}{8}$  to  $\frac{1}{4}$ -grain to the pint of solution. A larger amount makes a mixture too dense and like other anilin dyes, as for example, congo red.

The human stomach has been transilluminated for many years by various men since its inauguration by Einhorn. The method as a diagnostic aid is a good one in certain cases. Herein we have a procedure which is applicable to practically any thickness of abdominal wall, the average weight of cases thus far examined by me being 136 pounds.

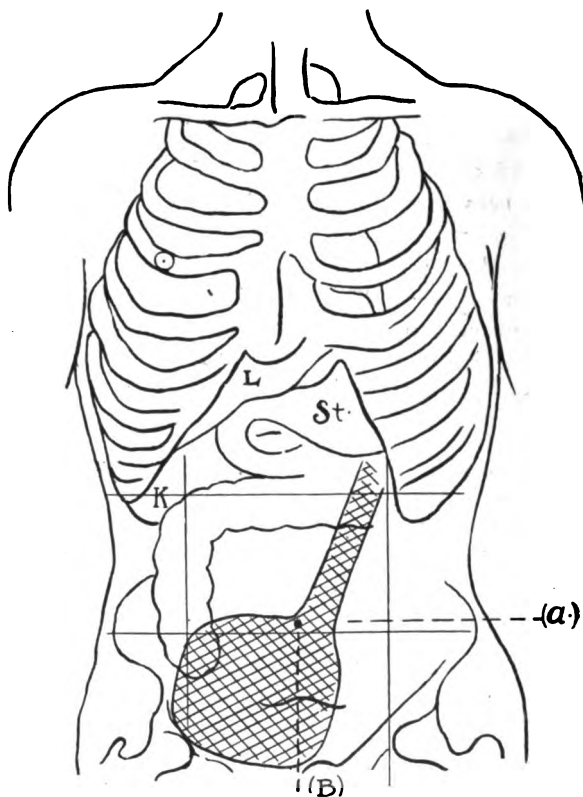
On March 28, 1904, I successfully demonstrated this method before the Section on General Medicine of this society in a patient of 135 pounds. In this case the lower curvature rested upon the left iliac crest, and extended some distance toward the symphysis. There was no motor disturbance. A cut of this exposure appeared in the *Medical Record* April 23, 1904. Quoting from this article: "As is well known, there are many cases in which we would like to know beyond question just where the stomach lies, and

\*Read before the Medical Society of the County of Kings, Nov. 15, 1904.

also whether it is enlarged or dilated (there being a great difference between megalogastria and dilation *without muscular compensation*). In the typical hypochondriac who is below weight, with thin abdominal walls, neurasthenia apparent in every line, epigastric impulse visible over a long area and at a long distance, history of mucus in the stools, etc., we can usually find the stomach either with a lamp in the organ in which has been placed plain water, or by ordinary methods without any lamp at all. There are, however, others decidedly atypical in muscular development, in whom all the usual methods fail. Could we close the pylorus, then filling the stomach with gas or liquid would be eminently satisfactory. The splashing sound is not sufficiently accurate. In the flourescein method we have one free from objection, either to patient or profession, accurate, inexpensive, easy of application, and, what is more important, one which may be practiced anywhere. The lamp is one which I made after my own ideas some four or five years ago. It consists of a small capsule having a light in one end, and connected with the battery by fine copper wires enclosed in a very fine rubber tubing, little larger than the ordinary match. An illustration of this lamp appeared in the *New York Medical Journal*. Lockwood of New York uses one which from description is very similar, although I have not seen it. Whether his was on the market prior to mine I do not know. The very great advantage of this lamp is that the patient need not be accustomed to the use of the stomach tube. I can offer proof of this assertion by stating that recently I examined five persons, none of whom had ever had a tube passed, in less than an hour's time.

**Method.**—The examination may be made in the morning on the empty stomach or in the evening, the patient having fasted since noon. For convenience I have at hand a bottle which holds one pint of the solution, which consists of one  $\frac{1}{8}$ -grain tablet of flourescein, 40 grains of sodium bicarbonate, one or two drachms of glycerine and the balance of water. This does not deteriorate on standing, as I used one specimen which had been prepared for over six weeks, and got a good result. In most instances it is better to allow the patient to introduce the lamp for himself. It inspires confidence, and the capsule goes easily down, and after that the cable gives no trouble. It is advisable to have the lamp swallowed before the solution, so that in the event of any slight irritation the stomach will be perfectly empty. The heat thrown out by the lamp is minimum, and immersed in solution is nihil.

With the lamp in the stomach, allow the patient to drink the flourescein solution. Have the abdomen bared, and turning down the light in the room or going into a dark room, connect the diaphane with the battery and you will have no trouble in seeing the illumination through the abdominal wall. Mark the outlines of the shadow with some soft substance, such as dropped chalk, and coming again into light measure transversely, vertically and distance of greater curvature above or below the umbilicus. This outline may be with suitable accuracy transferred at sight upon an abdominal chart made by rubber stamp or otherwise.



#### REFERENCES TO CUT.

Date, 11-9-'04.

Mrs. W.

Act. 39.

Wt. 125.

(a.) Umbilicus.

(b.) Distance of lower curvature below umbilicus,  $5\frac{1}{4}$  inches.

For purposes of drawing some conclusions I have gone over thirty cases taken just as they occurred in my private history book. My first object being to throw some light upon the location of the lower curvature of the stomach. Secondly, to determine the value of gastropnoxis or movable or fallen stomach, *per se*. Thirdly, the real need of support of such malpositions of the stomach. Fourthly, the location of the lower curvature in persons who have not, and never had any gastric trouble. That this organ varies

greatly both in size and location is well known. I have found stomachs in nearly every portion of the abdomen, but all but one far below the usual normally allotted space. It is described as lying behind the abdominal wall above the transverse colon and below the liver and diaphragm. Boardman Reed says the greater curvature should lie midway between the ensiform and umbilicus. The finding in my cases have made this the upper limit with but one exception. I found one case in which the organ in question lay two-thirds of it to the left of the median line, and the lower curvature above the line laid down by Dr. Reed. Of the 30 cases, 17 were without movable kidney; 10 male, seven female. Thirteen had movable kidney, 10 female and 3 male which is about the usual ratio. There were 4 in whom the lower curvature lay above the umbilicus, and 4 in whom it lay *at* the umbilicus. One female above and one at the umbilicus. One male with lower curvature above the umbilicus in whom there was a right nephroptosis. One female with curvature at the umbilicus in whom the right kidney was freely movable. Of these 30 *none* gave evidence of motor disturbance. In nine, 2 male and 7 female, there was no secretory trouble. Twenty-two lower curvatures were found below the umbilicus, 7 male and 15 female. These 22 were equally divided, 11 having other fallen organs. Of the 11 with simple gastroptosis, 5 were male and 6 female. But 2 gave any symptoms directly referable to the ptosis. These 2 were supported after the method of Rose, which is without doubt the best in use. In such cases support to the abdomen does give relief, *but not always*. After carefully going over many more than these thirty cases, I am beginning to think that the vast majority of these persons with one or more fallen organs do quite well without bandages or the various pads now lauded by their respective makers. With regard to the neurasthenic element which is described as a constant accompaniment of gastroptosis, I found that 11 were thus afflicted, 10 female, 1 male, the balance of 18 giving no neurasthenic history whatever. Of these 7 were female, 11 male. Of the 8 cases in which the lower curvature lay at or above the umbilicus, 2 only showed neurasthenia. I was, through the courtesy of the head nurse of Bushwick Hospital, enabled to examine a few cases in whom there was no form of digestive trouble. This material I find difficult to obtain. The average weight of these persons was 146½ pounds. I found the lower curvature varying from one to four inches below the umbilicus, with one excep-

tion, in whom it lay three-quarters of an inch above that point. All were good specimens of physical health and the females of a class not given to tight lacing.

My conclusions are:

That we do not need to artificially support the abdomen in which are fallen organs as frequently as was supposed.

That a gastroptosis is not *per se* to be taken too seriously.

That we need not always have neurasthenia where we find gastroptosis.

That the stomach lies much lower in the healthy individual, male as well as female, than has been described.

There are, as usual, many who doubt the value of this procedure, claiming that we have no proof that the light radiated through the abdominal wall comes from the stomach. It is also maintained that the rays may be not transmitted directly forward from the organ in which we place the lamp. I personally cannot bring forth material, but Dr. Kemp has done so, to prove that the stomach does lie where the lamp indicates. He has had the golden opportunity of locating by the flourescein method, and having his claim substantiated by abdominal section.

I think, however, that none will doubt but that the lamp will do work sufficiently accurate to uphold my claim that the vast majority of stomachs in the healthy male and female lie below the usual boundaries given as normal.

I append here a cut of one rather interesting finding; I say interesting, unless at that time the lamp was giving an extremely "*right handed*" reflection.

#### SOME THOUGHTS ON THE AFTER-CARE OF LAPAROTOMIES.\*

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The energies of abdominal surgeons in the last decade have been directed mainly to the improvement of their operative technics, and to the preparation of their patients prior to operation. With the operation completed and the patient in bed, and in the absence of alarming symptoms, as secondary hemorrhage, peritonitis, or the development of localized pus collections in the cavity, or mural abscess, the surgeon feels both satisfied and

\* Read before the Brooklyn Gynecological Society, Nov. 1904.



relieved. On the other hand, for the first three or four days succeeding operative interference, the patient endures a discomfort which is not appreciated as a rule by the surgeon, and cannot be unless the surgeon himself has experienced the same conditions. I intend in this paper to deal wholly with the medical aspect of the post-operative section, and in particular with abdominal distention, the backache, tonics and cathartics, the abdominal binder, and sleeplessness. The routine after treatment should comprehend all these and embrace in its careful attention a desire to make our patients as comfortable as possible. It also imposes on the surgeon the daily review of the patient's chart, and an intelligent study and interpretation of conditions as noted, and later, as convalescence approaches, the necessity of educating our patient as to any restrictions in the future, and as to his personal after-care.

Every laparotomy suffers more or less from abdominal distension, without regard to previous intestinal preparation, but it has seemed at times that there is a clearly defined relation between preparation and distension, so much so that distension is more likely to be associated with carelessness or haste in preparation. Distension, however, can obtain with the best of preparations, but occurring in the absence of a temperature or increased pulse rate, or from intestinal paresis, is of small moment to the surgeon. He dismisses it, simply noting that the patient's general condition is good, or that the bowels have moved, or that primary union is a certainty. But with a patient complaining of "gas pains," it is not enough to know that she is "passing gas" or has had a movement, for these do not signify freedom from distension. Question your patient, make an ocular inspection of the abdomen, palpate it and satisfy yourself that the distension is or is not sufficient to cause distress. No patient should be permitted to experience hour after hour increasing pain from gas, when so many remedial measures are at hand. Leaving out the question of careful prior intestinal preparation, in which I am a firm believer, I contend that after a section, the intestines should be given something to do just as soon as the nausea and the patient's condition warrant. In absence of any alarming symptoms and an uncomplicated distension, give a cup of black unsweetened coffee the morning following operation, and follow this with broths. Gas will form more quickly in an intestine in which the peristalsis is inhibited. Increase peristalsis and relief follows from con-

stant expulsion of gas per rectum. The first twenty-four hours hot water, as hot as can be borne, and in small and frequently repeated doses, is sufficient. Usually the patient cares for nothing else, as food is repulsive. The hot water is well borne, and it is surprising how grateful it is to the patient and how eagerly the patient watches for its giving. It aids in gas eructation, it quiets nausea, markedly relieves the thirst and acts as an ether absorbent. Thus in a measure we accomplish a mild gastric lavage. It is difficult in words to describe the discomfort of unrelieved gas distension. The patient is constantly worried, there is no such thing as sleep or rest. Dyspnea is present in all degrees, and there is that feeling of tension, of something about to burst, especially from the pressure against the abdominal incision. Yet very simple measures will afford relief. The Kemp rectal irrigating tube promises sure results, using from four to six gallons of plain water at 115°, or with a few drops of essence of peppermint added. Saline may be used in preference, or instead of a rectal irrigation, a high "1-2-3" enema. The alum enema, one ounce to the pint of water, is very strongly recommended and is very efficacious in dislodging gas. Molasses enemata are also favored. In eight laparotomies, since July, I employed eserine sulphate, injecting one-fortieth of a grain hypodermatically, and with fairly good results, except in two cases, in which an acute attack of cardiac failure with cold sweating followed immediately the giving of the drug. This, and the fact that a violent headache may also ensue, have led me to discard this drug, although others report a series of favorable results. If it is used, it is well to caution the nurse to have cardiac stimulants prepared for such an emergency.

How soon can we give an enema after operation? I've given a Kemp irrigation within six hours and enemata as early. The judgment of the surgeon and the severity of the symptoms will dictate the necessity of early employment. I can see no reason why a patient suffering from distension should be compelled to go over twenty-four or even thirty-six hours without an enema. Calomel may be given early also. There is still less excuse for waiting the usual forty-eight hours. It is well to remember that following an action from calomel and salts, the intestines are apt to rapidly fill with gas. I believe we are slowly emerging from the position of hard and fast rules for the after-care of the intestines, and that the trend now is to promote an earlier action

of the bowels. Of course, there is to be considered the fact that there has been no operative interference with the intestine itself. Right here I wish to register a protest against the indiscriminate use of morphia, and to suggest codeia, if an opiate is necessary. If the pain from the operation itself is not excessive, employment of morphia to quiet gas pains only nullifies the efforts of the intestine to relieve itself, by checking peristalsis, and increases our efforts to make a doped intestine act normally. All house surgeons should especially be cautioned that morphine is not to be administered except by an order from the attending surgeon. We take risks in giving a house surgeon *carte blanche* to use morphia when his immature judgment dictates.

A few words regarding post-operative backache. Patients so many times complain of this, but are told that every post-operative laparotomy suffers this annoyance, and that it will pass away in a few days. This particular backache, with its racking, grinding, never-let-up ache, is about the first thing of which one is conscious. Many laparotomy patients claim that the backache is worse than the pain from the operation. Its peculiarity is that from the beginning to the end there is no let up. It is constant, with no periods of remittance. If it would only stop for an hour or two the patient could bear it better. It does not affect all patients in the same degree. Some are hardly conscious of it, others are unremittingly tormented. It continues, as a rule, three days, and usually nothing is done for it. Nearly a dozen nurses who had had the care of some hundred cases and whom I questioned, said they had never remembered seeing an order charted by any surgeon to relieve the backache. I see no reason why medication is not indicated. In absence of medicine, a hot water bag on the abdomen and under the back will afford great relief, at the same time supporting the arch of the back. In five recent cases, iodine has been most successfully employed, simply painting the back with the tincture. The relief was almost immediate. A migraine tablet will afford some relief. The backache is very wearing, and invites sleeplessness. As to its probable cause, I have interrogated many of my surgical friends. Most of them agree that it is due to the table, on which the patient's back is not properly supported. I believe most operating tables are not sufficiently padded, and yet in view of one circumstance this cannot be the cause. After an operation on a table only slightly padded, one patient suffered acutely. I asked the operating room nurse to

see that the table was well padded for the next case. She did so, padding it many thicknesses. Yet this patient suffered just as badly. Opposed to this is the statement of another nurse, that in all her private work, she always padded the table well and never had a patient suffer from backache. The consensus of opinion seems to be that there is a separation of the vertebrae due to the relaxed condition of the muscles, and that a consequent unusual strain was produced on the ligaments supporting the vertebrae with resultant nerve pressure. What the cause really is I do not know, but I believe the condition is of sufficient importance to demand our attention. As I said before, all patients do not suffer from this annoying backache, but the majority do, and it is to them our attention is directed.

In regard to the abdominal binder, we all have our own opinions. Some advocate its use, others do not. An abdominal wound is peculiarly sensitive. One hardly realizes how tender those small incisions are. A patient will limit motion in bed, stifle a sneeze, or smother a laugh because of the pain produced in the wound. Experience, therefore, dictates that comfort and support are essential. Even a month after operation, a sudden turn in bed without a binder produces a feeling as though something were giving way. The binder furnishes a needed support for the first two or three months, though in cases of primary union I would not advocate its use further than that unless the patient is very stout, because I believe that constant and prolonged use of a binder beyond a certain time promotes an atrophy of the abdominal wall from pressure effects. One example of this came to my own personal notice. The discomfort of a binder is considerable with its violent chafing of the groin produced by the perineal straps. The constant use of toilet powder to relieve this chafing is essential. Rubber perineal straps from the friction produced are not as comfortable as cloth ones. Tell your patient to discard the rubber ones and make a set of cloth straps. Also to see that the edges of the binder and the straps are powdered daily, as the groin, because of its thin skin, chafes easily. Should a light binder be worn at night? I believe so for at least a month, until the scar is sufficiently strong to withstand the action of the abdominal muscles, as they contract and pull on the scar during the efforts of changing one's position in bed. The binders made of linen appear to me to be cooler than those made of silk. They are more serviceable and less expensive. Many surgeons don't pre-

scribe binders as a routine of their after-treatment. If there has been a suppurating abdominal wound, a binder is necessary as a preventive of hernia. In such cases I warn the patient to do no lifting nor straining. It is impossible unless one has actually experienced an abdominal section, to describe the feeling of comfort and sense of security which a binder offers, though it may not be absolutely necessary.

Every laparotomy needs sleep, and our attention should be directed to securing for the patient the desire modicum. Especially should the hours of medication be so arranged that they will not interfere with the sleep of the patient. There are times when medication is necessarily constant day and night, and just so soon as this can be cut down, then is the time to inquire as to the amount of sleep a patient has had. Bromide, amylene hydrate, small doses of trional or sulphonal will promote the desired effect. Bromide, I believe, is best given in repeated doses, starting at 7 o'clock with fifteen grains and repeating in hourly doses of ten grains till three doses have been taken. Should the stomach not retain it, it will be found that the rectum absorbs bromide easily. Trional and sulphonal are best given in hot milk in doses of ten grains. The hot milk seems to increase the action of these drugs, and there is a certain apparent soporific action in a glass of hot milk itself given just at bedtime, as has been frequently noted. In giving bromide in one dose, it is better to instruct the nurse to wait until about 10 o'clock, when most noises have quieted down. There are other conditions which may induce sleeplessness, outside of mere frequent drug repetition. We know no patient with a badly distended abdomen can sleep, and that the pain incident to the operative interference itself will rob the patient of sleep. For these conditions we should employ such measures as our judgment dictates. But I refer particularly to the sleeplessness of those cases which in the absence of any complication or condition outside of "pure nerves," simply cannot sleep, but toss around all night long and keep the nurse constantly in attendance. One has only to experience an attack of "nerves" just once to be convinced that all advice to "Go to sleep and not worry," or "Never mind, you'll be asleep shortly," is a waste of time and words. Such advice serves only to annoy and fret patients who in this condition need sleep. They need a sedative, not advice nor suggestions, and they further need diligent inquiry by the surgeon as to whether his patient has had a certain quota of sleep and whether there was a response to the

medication. And here comes the question, do our patients need tonics and daily cathartics? It has always been my practice after the patient's bowels have moved thoroughly for the first time succeeding the operation, to force feeding, stimulating an artificial appetite, and at the same time draining the sluggish lymphatics by a daily cathartic. These patients can stand one movement daily. Their life has now become sedentary, they are not exercising, and peristalsis is therefore diminished. The first two weeks is a quasi existence after all. There is no real appetite, no healthy fatigue to promote sleep, no actual desire, as a rule, for a movement. The patient is living unnaturally, and to that extent must we watch all the functions. Small doses of nux vomica and a combination of cascara and rhubarb and soda, three times daily after meals, will meet the indications, although individual preference will elect the drugs each surgeon employs.

In absence of any suppurating wound or a stormy convalescence the patient should be out of bed in two weeks, sitting up in a chair. At the beginning of the third week the patient should be allowed to walk. And yet, as in other lines of treatment, there are many different views by as many different authorities. One patient is kept in bed a month before being allowed to get up, another is up and around in ten days. I believe it is not a question of extremes whether the fewest or the greatest number of days. It is a question of safety, of the condition of the wound, the patient, the nature of the operation, and the condition of one's patient prior to operation, whether that of chronic invalidism. One operator may say his limit is ten days, but I'll guarantee that all of his cases are not of the ten-day type. In two weeks, in absence of anything to the contrary, a scar should be firmly enough healed, provided the layer method of suturing has been employed, to allow the patient to sit up, preferably I believe, with a firm binder applied. A scultelus binder affords a more even pressure and secures a firmer hold than the ordinary plain binder. I believe, however, as soon as a patient has begun to sit up and walk around, that it is time, if conditions permit, to discontinue all medicine as soon as we can. Don't encourage the habit. It only promotes invalidism. We can, however, encourage the practice of taking plenty of water, a fact which is often overlooked. Most of our patients, especially women, are poor water drinkers, and this is the time to suggest that they form the habit of drinking water. I usually prescribe water—five glasses daily—one before breakfast, one with

each meal, and one at bedtime. If a patient is taking medicine the time of water drinking is made to correspond with the hour of medication.

Finally, the patient is told to avoid any lifting or straining. All patients do not understand that they must adopt a different manner of living than formerly. It is the ward patient who needs to be cautioned. A woman who is a wage earner over a washtub, or a janitress, ought not to perform such labor within eight weeks after an operation, certainly not without a binder; and yet these patients do not know this fact. The ward patient needs education in these matters and just as much advice as our private patients. It is either a question of instructing our house surgeons to impress these points on the patients or take it upon ourselves. Every surgeon should have his patient's welfare at heart, no matter what her station in life, to such an extent that the patient is informed regarding the possible necessity of a binder, her freedom or prohibition to do certain household duties, and whether medication is necessary the few weeks succeeding an operation.

I believe that every laparotomy is entitled to just as much care and consideration after an operation as during, or even before.

126 Joralemon Street.

### COLLES'S FRACTURE.\*

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Colles's fracture, or to use the term preferred by some, fracture of the lower end of the radius, has been the prolific source of medical debate for nearly a century. No year passes by that some contribution is not made toward its elucidation. The mechanical factors which cause it, the pathological conditions present, the variety of splint which best meets the indications are the oft recurring subjects of medical controversy.

Prior to Abraham Colles's investigations in 1814 this condition was treated as an outward dislocation of the wrist, and at this late day the same mistake has not been entirely eliminated from surgical practice.

Dr. Colles, of Dublin, gave an accurate description of the lesion, and since that contribution, fracture of the lower end of the radius has been more familiarly known as Colles's fracture.

Valpean, in observing the deformity, was impressed with its similarity to a silver fork, and it has also been called silver fork fracture.

There seems to be no good reason why it should not retain the name of Colles, for while it is a fracture of the lower end of the radius, it is more—it is a fracture of such distinctive characteristics that it is worthy of a distinctive name. It is no flight of fancy to observe the analogy between a Potts and a Colles fracture. They both have in common a characteristic cause, a characteristic pathology, a characteristic deformity, and a characteristic symptomatology. Potts's fracture means more than a fracture of the lower end of the fibula, and Colles' fracture means more than fracture of the lower end of the radius.

Colles's fracture is one of the commonest, ranking next in frequency to fracture of the clavicle. Its frequency is easily accounted for when we recall the circumstances under which a Colles's fracture is sustained. When a person falls it is the natural thing to throw the hand forward for protection, thus the hand in the hyperextended position receives the force of the fall and the blow is transmitted from the carpus to the carpal end of the radius and fracture results.

Without elaborating the various theories as to the cause of this lesion, the following explanation seems rational and sufficing, and its correctness I have verified by experiments on the cadaver.

1st. There is a weak spot in the radius about three-quarters of an inch below its carpal end at a point where the compact tissue of the shaft joins the cancellous tissue of the head.

2d. If we look at the mechanical factors present when the hand is hyperextended (Fig. 1) we see the carpus attached to the radius by the thick, stout anterior ligament; the apex of the carpus pressing against the articular surface of the radius as a fulcrum, the hand acting as a lever. When force is applied to the point of rupture the hand, the ligament, or the radius must break; the end of the radius, therefore, is torn off at the weak spot before mentioned, because of the cross strain imposed at this point.

A fracture of the radius at this point produced in this manner produces a pathological condition which gives us five well marked deformities.

1. Prominence of the fragment at back of wrist.
2. Hand thrown to radial side, giving appearance of dislocation of wrist.
3. Prominence of the ulna.

\*Read before the Brooklyn Medical Society April 13, 1904.

4. Widening of the wrist.
5. Shortening of the radius.

The dorsal prominence at the wrist is caused by the fragment of the radius displaced upward and backward, and tilted on its own axis (Fig. II.) The hand and wrist follows the distal fragment to which it is bound by strong ligaments, and hence the appearance of an outward dislocation at the wrist. As the lower end of the radius is displaced it is torn away from the ulna, the fibro cartilage is dislocated, and an undue prominence of the ulna results, this also cause a widening of the wrist as the radius and ulna are spread from their normal position. The backward displacement of the radial fragment causes a shortening of the radius and is shown by comparing the normal relation of the radial and ulna styloid with the same in a Colles's fracture (Fig. III.).

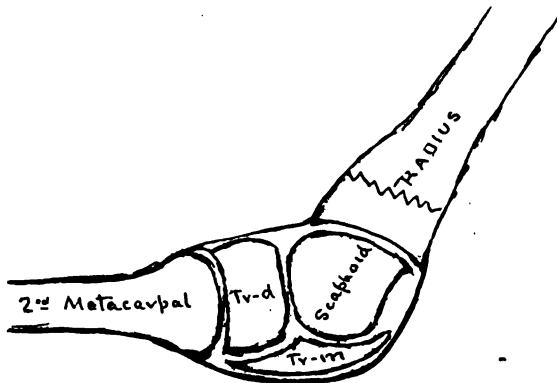


FIG. I.—Section in long axis of radius showing action of radio-carpal ligaments and point where fracture occurs. (Stimson Modified.)

In the normal arm the radial styloid is about one-half inch lower than the ulna; in a Colles's fracture the radial styloid is pushed upward so that the tips of the styloids will be on a level, or the radial may even be on a higher level than the ulna.

One other peculiarity, and a most important one to keep in mind—the absence in most cases of crepitus, or abnormal mobility, of the fractured fragment. Many surgeons hold that impaction is an essential feature of this fracture. I do not believe that true impaction occurs as a rule save in elderly people.

What I have demonstrated on the cadaver to be true is this, that the lower fragment is locked or entangled in the upper fragment by the tooth-like surfaces of bone interlocking and the contracting flexors and extensors exert their force in keeping the fragment in its abnormal position.

For this reason it is difficult to dislodge the

fragment without great force, and the fragment is seldom satisfactorily reduced without anesthesia to paralyze the muscles.

In the diagnosis of this fracture we start out



FIG. II.—Lateral view of displaced fragment (after Codman.)

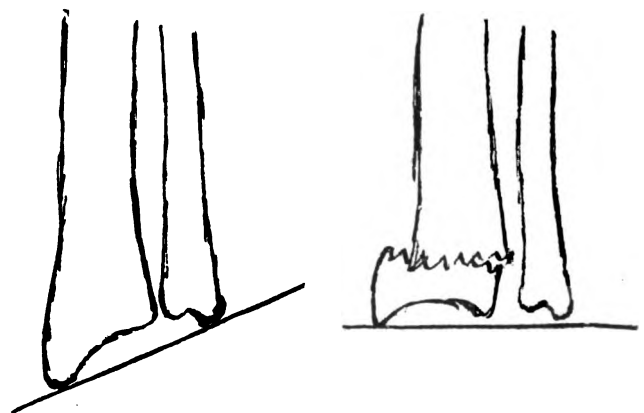


FIG. III.—Showing normal relation of radial and ulna styloids and the relation after Colles's fracture.

handicapped by the absence of the two most important symptoms of all fractures, viz.: crepitus and abnormal mobility. The diagnosis must be made upon a deformity of the wrist, and the essentials of this deformity form the symptom—complex of Colles's fracture.

The symptom complex is the result of five pathological factors:

1. Dorsal prominence over radial side of wrist.
2. Hand abducted to radial side.
3. Change in the normal relations of the radial and ulna styloids.
4. Prominence of the ulna.
5. Widening of the wrist.

And we may add that in 65 per cent. of cases the ulna styloid is torn off.

In making a diagnosis of Colles's fracture the normal wrist must be made the standard of comparison. Find the normal relations of the radial and ulna styloids (Fig. III.), measure the width of the normal wrist. Compare the two wrists in every particular and demonstrate the symptom complex. Finally, the X-ray will clear up the diagnosis at once, and demonstrate the bony lesion beyond doubt.

#### TREATMENT OF COLLES'S FRACTURE.

The cure of a Colles's fracture consists in its immediate reduction. If the fragment be accurately replaced any form of splint will give a good result, if not, no form of splint will make the result satisfactory. In short, results in Colles's fracture depend entirely upon reduction and not upon the splint.

This is clearly demonstrated when true impaction occurs in elderly people. A good result cannot be had by any form of treatment because the fragment cannot be replaced in its normal position.

If, then, the cure depends upon the reduction, let me first call attention to the futility of certain procedures commonly resorted to.

Attempts at reduction without anesthesia are unsatisfactory, unreliable, and usually futile. Consider of what use pulling upon the hand is in dislodging the fragment. The most that can be accomplished is a slight give in the firm carpal ligaments, a slight separation of the carpal bones, after this the flexor and extensors begin to resist and oppose further traction.

The ligaments may be stretched but the fragment remains stationary.

The prime requisite, therefore, in the treatment of this fracture is complete anesthesia, or enough to relax the tension of the muscles which oppose traction. A fragment which seems immovable may become movable under anesthesia. The patient being anesthetized, any manipulation which will bring the fragment to its normal position is a proper procedure. I believe, however, that there is a definite rule of procedure which will best accomplish our purpose.

While there are many ways, there is a best way, and the proof of this I have demonstrated upon the cadaver and in a few recent cases in which I have proven its efficacy.

I am indebted to Griffiths for suggesting traction of the hand in the flexed position. This I believe can further be improved by supinating the hand and bending the forearm at a right angle to relax the supinator longus muscle attached to the displaced fragment.

The procedure recommended is to effect reduction by placing the hand in the opposite position to that in which the injury was sustained.

At the time of injury the hand is hyperextended and pronated. By supinating and flexing the hand I believe that reduction can most easily be accomplished. With the patient completely anesthetized the forearm is brought to a right angle with arm and supinated. Traction is made upon the hand in the flexed position and counter pressure is made upon the upper fragment. (Fig. IV.)



FIG. IV.—Correct position of hand and forearm in reducing Colles's fracture.

#### Reasons for this manipulation:

1. Complete anesthesia usually unlocks the fragment.
2. The forearm is brought to a right angle and supinated to relax the supinator longus muscle attached to the displaced fragment.
3. Traction is made upon the hand in the flexed position because the strong anterior ligament which binds the displaced fragment to the carpus will thus directly pull the fragment into its normal position.

The value of the strong anterior ligament connecting fragment and carpus has not been sufficiently emphasized. It is of immense importance



in pulling the fragment into position if traction be made upon the hand flexed.

After reduction there is little to be said about choice of splint. Any splint which will keep the fragment immobilized in position is the one to use. One point, however, of importance ought to be observed, whatever splint be used, viz., placing the arm in a sling, with the weight of arm resting upon the ulna, the hand outside the sling and pointing downward. This position will tend to correct the widening of the wrist and the prominence of the ulna.

An entire paper could profitably be devoted to the discussion of the results following Colles' fracture. In the treatment of these cases it is well to realize that under the best treatment perfect results cannot always be expected. There is often permanent damage which no reduction can repair. Where there is true impaction, or loss of bony substance, there is bound to be resultant deformity. Where there is rupture of the triangular fibro cartilage, there is apt to be permanent widening of the wrist with undue prominence of the ulna. Stiffening of the fingers can be overcome by early mobilization and the prevention of adhesions in the tendon sheaths.

The movements of pronation and supination are recovered slowly because of involvement of the radio-ulnar joint. Several months will elapse before these movements will have reached their normal range.

With these facts before us, it is the duty of every surgeon to protect himself by making a frank statement to his patient that under the best treatment some deformity may result, and that no one can guarantee a perfect *restituto ad integum*.

#### VALUE OF THE X-RAY IN THIS FRACTURE.

In the field of fractures there is not another where the X-ray is of more value than in the treatment of Colles' fracture. It is valuable in making an exact diagnosis—a correct prognosis, and to observe the reposition and retention of the fragment under the splint. Yet there is a singular indifference of the profession to its use at the right time. The X-ray is usually called upon to find out why, after four or five weeks in a splint, the patient has a resultant deformity. Too late! The X-ray at that time is of use only to satisfy curiosity. The diagnosis should be confirmed by X-ray and a photograph of the lesion made. This makes the diagnosis exact, and secures valuable evidence for the surgeon's protection.

Quite as important as the diagnosis it gives

us a basis for prognosis, and we can then prepare the patient for results which may reasonably be expected. If during the first week two or three X-ray exposures can be made, it will enable us to observe if the fragment remains in position and to make such readjustments of retention apparatus as may be indicated.

Finally, our results in Colles' fracture will improve if we realize that the worst deformities are those following inadequate, which is as bad as no treatment. That nothing short of reduction under anesthesia is adequate or satisfactory.

That the X-ray is an important adjunct for protection of patient and surgeon.

That in this fracture prognosis is as important as diagnosis.

#### THE CLINICAL SIGNIFICANCE OF TUBE CASTS IN THE URINE.

BY THOMAS C. CRAIG, M.D.

The subject of the clinical significance of tube casts in the urine is one which to every physician is very important. Ever since the discovery of Dr. Bright, pathologists have been endeavoring to harmonize the clinical aspects of the urine with that of the kidney lesion. Tube casts have not inaptly been named "the messengers from the kidneys." Certain it is that we ought to be able to recognize some of the kidney lesions by the evidence given by an examination of the urine.

The kidneys are compound tubular glands and their function is to remove from the blood debris that is no longer of any use to the economy, or that may be poisonous to the tissues if retained and allowed to accumulate. It is not my intention, nor have I the time, to enter into the anatomy or physiology of the kidney. It has been abundantly proven that the kidneys do remove much poisonous material from the blood, and you are perhaps familiar with the experiments of Bouchard in this direction, who states that the urine contains seven toxic substances; two of these are endowed with the property of causing convulsions, another causes contraction of the pupil, another reduces heat, another is sialogenous in its effects, another is narcotic, and another one is diuretic, and this last substance is probably urea. Urea is toxic only in very large doses, hence we are led to believe that the injurious effects are produced by the substances other than urea. Drs. Hughes and Carter, in a series of experiments, some years ago, showed that it was not the non-elimination of the urea that caused diseases, but that there was an accom-

panying poison which was retained in the blood and thus produced the disease.

These organs thus being the great strainers of the blood, allow to percolate out many things poisonous and non-poisonous.

This is well exemplified in many of the continued and eruptive fevers and in many of the diseases in which a virulent toxin is formed, for we often find in these diseases that the excrementitious material is of such a character as to irritate the delicate renal tissues to the extent of causing an albuminuria and in some cases a chronic inflammation with the result of our finding tube casts in the urine.

The toxins from the infectious diseases or the irritating materials resulting from a faulty metabolism in the digestive process or the constant presence in the vascular system of foreign substances, if continued for too long a time, will surely set up a congestion which in its turn may lead to chronic structural changes in the vascular and renal systems.

The dividing line between the acute process and the chronic condition is never sharply drawn. We cannot tell where one ends and the other begins. The whole thing resolves itself into a question of time, but it is often difficult to tell when an irreparable damage has been done. It is only by constant and repeated investigation of the case that we are finally able to observe the albumin and casts to disappear in these cases, the hypertrophy of the heart to subside, and the increased arterial tension give way to normal tension. Some writers on renal pathology claim that the primary lesion, in cases of nephritis, is the glomerula and that the tubular portion of the kidney is secondarily involved. Hence, it is in these cases that we almost invariably have an albuminuria as the first renal symptom, but as soon as the disease has advanced far enough to affect the tubular structures we have the cast formation.

It is but reasonable to suppose that substances so foreign to normal tissue would cause changes in them and thus it is that we have renal disease established.

Writers of the past and of the present are not yet agreed as to what is the exact material which enters into the formation of urinary tube casts.

"Three chief views have been held as to their nature and mode of production:

"First, that they are the result of disintegration of the epithelium of the renal tubules, the resulting products becoming packed into moulds by

the pressure of the urine, until at length they slip through the smaller convoluted into the large straight tubes and appear in the urinary sediment.

"Second, that they consist of a secretion of the morbidly irritated epithelium lining the renal tubules, which become caked into moulds and are washed down with the urine.

"Third, that they consist of coagulable elements of the blood which gain access to the renal tubules through pathological lesions of the latter, and that any free or partly detached products of the tubules become entangled in this coagulable product, assisting to form the moulds of the tubules, which subsequently appear in the urine as casts." (Purdy.)

This last view is the one most generally accepted, at least, it will serve to explain the formation of the more common casts.

Whatever view or theory we accept, the main point is, whether the condition of the kidneys is such as to be permanently injured, or whether they are such as to regain their normal structure: the one great cardinal point to the patient and physician is to find out the trouble and cure the disease.

One is often asked the question, are tube casts always indicative of kidney disease? I can only give you my own individual opinion on this point by saying that it depends on the character of the cast found and its permanency in the urine. Formerly we were taught that the simple finding of an innocent looking hyaline cast was an infallible sign of Bright's disease; but we know, at present, that this is not so unless accompanied by other confirmatory symptoms. Hyaline casts are frequently found in the urine of healthy persons, but this presence can generally be explained by error in diet or drink or exercise. Under these conditions they soon disappear. Then, again, we know that hyaline casts are found in the majority of cases of persons over fifty years of age who lead a strenuous life; and quite frequently in the urine of persons much younger who pursue an occupation demanding extreme muscular and mental fatigue.

Then, again, we must not forget that hyaline casts are extremely common in senile degeneration of the kidneys in persons over sixty years of age; yet in many of the above mentioned cases there is no trace of albumin present, and no sign of disease evident and the person lives on to advanced age.

#### DIFFERENT KINDS OF CASTS.

Casts are classified according to their composition and size. A simple division is as fol-

lows: The hyaline cast, the waxy cast, the fatty cast, the blood cast, the epithelial cast, the leucocyte cast, the bacterial cast, the crystalline cast or that composed of crystals which have arranged themselves in a cast-like shape, and the mucus cast or cylindroid. Their mode of formation is as follows: When the material composing them is exuded into the kidney tubules it solidifies and then contracts and is washed down by the urine. If the formation has taken place in a narrow part of the tubule, we have the small hyaline cast; if the epithelium of the tube is loosened, this may adhere to the cast and will then form an epithelial cast; if the epithelial lining of the tube has already been detached, we will then have a medium sized or large hyaline cast, being the diameter of the original size of the tubule plus twice the thickness of the epithelium. If there were blood corpuscles present and they adhered to the cast, or if the blood was in sufficient quantity to fill the tubule and thus form a mold, then we will have a blood cast. If leucocytes are present and adhere to the cast, we have a leucocyte cast; and in the same way may have a bacterial cast formed. When the material is quite solid in appearance and resembles molten wax, we have a waxy cast formed. Sometimes crystals aggregate into cast-like bodies.

When the tubules contain disintegrated epithelium or disintegrated blood cells and this material becomes incorporated in the cast, we have formed the granular cast; and thus it happens that we have the slightly granular, the moderately granular and the highly or darkly granular cast.

Any of these casts may also be stained by the presence of bile or blood pigment.

We frequently find mucus casts or cylindroids in the urine. They are mucus molds of the uriniferous tubules and differ from true casts by their great length, unequal diameter and fibrillated appearance. Occasionally they have adhering to them granular debris, such as urates or phosphates. We find them in highly acid conditions of the urine and generally when the specific gravity is high; and also in cases of irritation of the bladder, where the process has extended along the ureters to the kidneys and also in passive renal congestion.

Casts are produced by irritation and by inflammation of both a high and low grade intensity. Anything which will bring these things about will produce casts in the urine. Thus a highly acid condition of the urine with concentration, the toxins of bacterial origin, the poison of syphilis, the ingestion of alcohol, lead, phosphor-

ous, cantharides, turpentine and many other substances, will produce casts in the urine, and it has been said that the modern use of the coal tar products are largely responsible for many cases of renal derangement, and the subsequent appearance of urinary tube casts.

Casts in the urine show that inflammatory changes are going on in the kidney structure and it is according to the length of time these inflammatory changes continue that the resulting condition of the kidney will be.

In many of these conditions the brunt of these inflammatory changes does not cease with the kidneys, but is made manifest in many tissues of the body, principally in the arterial system and in the increased growth of connective tissues in the intercellular spaces; thus giving rise to cirrhotic conditions and arterio-sclerosis.

Nature always tries to protect herself, and when she becomes conscious that these irritating, poisonous materials are circulating in the blood and there being brought into contact with the delicate endothelial lining of the blood vessels, and also into contact with the highly delicate and sensitive epithelial lining of the uriniferous tubules, she begins to safeguard herself by increasing the thickness of these epithelial cells and increasing the amount of the connective tissue stroma and thus tries to barricade herself against a substance that is repellent to her. Under these varying conditions of low grade and active inflammatory processes, we find the kidneys undergoing certain and well known changes, and in these changes certain modifications take place in the cell structure and accompanying this we have the urinary tube casts formed.

The following are the diseases in which renal casts are commonly found in the urine:

Simple pyrexia.

Acute and passive renal hyperaemia.

Acute parenchymatous nephritis.

Chronic parenchymatous nephritis.

Chronic interstitial nephritis.

Suppurative interstitial nephritis, or as it is commonly called, surgical kidney.

Amyloid degeneration of the kidneys.

Cystic disease of the kidneys.

Renal tuberculosis.

Renal cancer.

Renal calculus.

Renal embolism.

Uremia.

Diseases accompanied by a pyrexial condition, such as:

Typhoid fever.

Diphtheria.  
Scarlet fever.  
Typhus fever.  
Cholera.  
Yellow fever.  
Small pox.  
Pneumonia.  
Pulmonary tuberculosis.  
Rheumatism.  
Acute and chronic gout.  
Erysipelas.  
Tonsillitis.  
Haemaglobinuria.

We must not lose sight of the fact that some form of nephritis may succeed renal congestion in any of these diseases. Thus, pneumonia is frequently complicated by a nephritis, and the prognosis is then very grave; 45 to 50 per centum of the cases proving fatal. In some cases of pneumonia this renal complication sets in, and then there is a retention of the pneumotoxin in the blood, and as a consequence a hyperpyrexial state ensues.

The urine should always be sedulously watched in this disease for this complication. Amyloid degeneration of the kidneys is more or less common in cases of chronic pulmonary tuberculosis.

In pregnancy a renal congestion may go on to a nephritis.

Scarlet fever is generally accompanied by renal changes, and these may vary with the severity of the case, the toxin in some cases being more irritating than in others.

Simple as it may seem, dietetic errors often give rise to renal tube casts, and these in proportion to the kind of food taken and the duration of such error. Indeed, I think it is an accepted fact that more cases of chronic interstitial nephritis are due to dietetic errors than to any other cause. Foods that are rich in the purin bases or nuclein and nucleic acid, which go to form uric acid, are particularly apt to give rise to disturbances which compel a constant renal congestion, and which, if continued long enough, ends in a chronic inflammatory condition which oftentimes is permanent. These conditions are most always accompanied by the presence of renal casts in the urine.

As a working basis we conveniently divide casts into groups; as, the cylindroids, the hyaline casts, the granular casts, the epithelial and blood casts, the waxy casts, the leucocyte and bacterial casts. The mucous cylindroids are always the first to appear in cases of irritation and passive congestion of the renal tissues, and are generally regarded as showing only a temporary cause. They

are often spoken of as false casts in contradistinction to the true casts.

The hyaline casts are always the first true casts to appear in any disease, for they are the indicators of commencing irritation or congestion of the renal tubules. With this beginning congestion we find the small clear hyaline cast; and as the disease progresses we find these casts, in some cases, early beginning to be slightly granular or simply granular in one portion of their extent.

This granular material is not broken down renal tubule cells, for in these cases the tubules have not exfoliated their epithelial linings, and moreover we never find any epithelial casts present, besides this the size of the casts indicate a small mould for their formation.

I think that the granularity must be due to some deposition of the more insoluble urinary salts on them, such as urates produced by falling out of solution in highly acid conditions of the urine, and thus being in position to readily attach themselves to the soft, easily impressionable small hyaline cast. It is more than probable that this takes place after the urine leaves the kidneys, possibly it takes place in the pelvis of the kidney or in the ureter or in the bladder. It is not at all uncommon to find these small slightly granular hyaline casts disappear entirely from the urine in the course of a few days or weeks. They would therefore represent a temporary condition of derangement.

When we come to inquire into the presence of the medium-sized hyaline casts the case is very similar to the one which produced the small hyaline cast. The renal tubes differ in their calibre in different parts of their course, and thus we have explained to us why we have a medium-sized hyaline cast, and when it is granular or partly so we account for it as we did in the case of the small hyaline cast. With the presence of the large hyaline cast the case is different, their presence is much more significant. The large hyaline cast is formed in the tubule only after the epithelium lining them has disappeared. This exfoliation may take place by the epithelium itself becoming detached and being washed away by the urine, or as was previously explained, a hyaline cast may form and the cells become attached to it, or the cells may undergo a granular degeneration in situ and thus enter into the formation of the cast, thus producing a granular cast. In either case the renal tubule is stripped of its epithelium, and we thus have a large tube for the subsequent formation of large hyaline or waxy

casts. It is thus seen that the presence of a large hyaline cast or a large granular cast, in the urine, is of much more importance than the presence of the small or medium-sized ones were. In like manner the presence of a waxy cast or an epithelial cast becomes more important. Blood casts represent an acute process, or an acute process engrafted on a chronic condition. Whenever the heart is strongly forcing the blood into the renal capillaries, and a condition exists which impedes the ready outflow of the blood into the renal veins, we are liable to have a rupture of some of these capillaries, and as a consequence a renal hemorrhage. A hemorrhage may also take place when the kidney is invaded by a malignant growth, which breaks down or undergoes an ulceration. Before the hemorrhage actually takes place we have the appearance of blood discs in the urine. These sometimes become attached to hyaline casts, in a like manner to the epithelial cells, and thus is produced the hyaline blood cast. The hemorrhage is sometimes so severe that the blood discs themselves form solid moulds of the renal tubules. Blood casts are thus indicative of renal hemorrhage.

In cases of suppurative kidney disease hyaline casts may have embedded in them or attached to them numerous leucocytes and thus give evidence of a suppurative process in the renal tissues. As was previously mentioned, bacteria sometimes are found held together in cast-like forms, and their presence in the urine is regarded as giving evidence of septic suppuration of the kidney tissue, such as embolic abscess. It is important not to confound the true bacterial cast with the loose agglutination of bacteria that is sometimes seen in decomposing urine.

When an epithelial cast remains in the tubule for some time it occasionally undergoes fatty degeneration, and we then have a fatty cast result. These casts are generally present in old standing cases of chronic parenchymatous nephritis, and are looked upon as showing a chronic inflammatory condition—the large white kidney.

(To be continued.)

#### SURGICAL ANESTHESIA IN CHILDHOOD.

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Fortunately few children succumb to an anesthetic. There are no special statistics subsequent to 1893, the year of the *Lancet* report; if such were obtainable, I would expect that the percentage of fatal cases reported since that year—45

patients under 15 years among 600 of all ages—would be greatly lessened. Speaking generally, the child bears an anesthetic better than the adult. A representative report is that of the St. Mary's Free Hospital for Children (New York), whose record is that in thirty-five years there have been no deaths on the table. If all reports were like that, the anesthetist would feel easy about every narcosis in childhood. Unfortunately, we each of us privately know of too many fatalities. The child is safe if the anesthetic is carefully given—safer than most adults, for it has not yet overdrawn its health account, as so many adults have done; nor is it dealt with so carelessly as many adults are. I find that most anesthetists have an instinctive solicitude for the safety of a child and are most cautious when one is under their care. In addition to this, few of the major and severest operations are necessary in the earlier years of life. So the comparative immunity of children can be accounted for without giving the child great consideration. On the other hand, certain facts are well known, and if negligently regarded or entirely lost sight of, will rise up in the judgment of many unreported cases. Any narcosis is a serious attack upon a child's vitality. To prolong it by unnecessary delay, either by failing to complete important details of the operation before the anesthetic is begun, or by unreasonable slowness on the part of the operator, is a crime against the little patient. It is no less necessary to husband the child's body-heat by avoiding exposure to a low temperature either in the room itself or from a cold table or covering; and especially should an anesthetist be careful if the patient has lost a large amount of blood.

Childhood ends with puberty. Children's hospitals usually consider this period to be at fourteen years. I have noticed that within this age-limit there are three well defined sub-periods. 1. From the time of the beginning of sentience through the period of the first dentition. 2. The interval between that and the beginning of the second dentition, during which there is the development of intellection. 3. The transition period, from about six to fourteen, during which time the body is assuming more definitely the characteristics of the preadolescent stage. For the purpose of my paper, I am led to define yet a fourth, the earliest period, that of the foetal life. To consider the peculiarities of each of these stages of the child's development requires more time than is at our disposal this evening. It will have to suffice that mention is made only of those features which have an immediate bear-

ing upon the subject under consideration. So I endeavor to frame a reply to this question. In what particulars does a child differ from an adult that it should be treated in a manner peculiar to itself when subjected to a general, an inhalation anesthetic?

During its intra-uterine existence, the child is affected by changes in the maternal organism through the intimate relations of their blood. It is certainly conceivable that an anesthetic agent which will penetrate to and affect the protoplasm of a cell of the brain is equally able to pass into the blood of the placenta; and that it does so is seen in the report of a case of fatal foetal narcosis occurring in the course of a protracted delivery during which the mother was given forty-eight ounces of chloroform. Perhaps many another still-born baby died in the same way, and it is an open question whether many a child who was said to have been squeezed to death by a forceps was not quite as much poisoned by the anesthetic. The safe way is to use only as little chloroform as possible. Ether is not so safe for the foetus because so much more of it is taken up by the maternal blood and by just so much more lessens its oxygen carrying power.

Up to the first two or three months after birth the infant retains many of the characteristics of its foetal condition with respect to a narcosis. Cutaneous sensibility to pain is slight and sentiency is barely perceptible. At this time usually no anesthetic is required for the few if for any surgical interferences which may be necessary. I find that Benno Müller (Hamburg) takes the same view in his *Handbuch-Narkologie*—"Es ist sogar im allgemeinen Brauch, ein Kind unter 1 Jahr nicht zu narkotisieren."

At the Babies' Hospital (New York) it is a rare case which requires an anesthetic. Circumcisions are usually done without it. Dr. Satterwhite, the anesthetist at the Hospital for Ruptured and Crippled (New York) once anesthetized a child only a few days of age whose abdominal wall had to be sewed together to cover a bad condition of eventration. Even then he gave only a whiff and felt, he says, that even so little was hardly necessary.

At the New York Foundling Asylum it is quite the rule to give ether for every operation, regardless of age. It is not because the necrosis is dangerous to the child, but because what little has to be done can usually be done without.

It is when the infant has begun to find itself and to have pronounced likes and dislikes that the question of a general anesthetic must first be

seriously considered. Three peculiarities of the infant must be kept in mind. 1. The nasopharynx is of very small dimensions; a slight encroachment of the mucous wall upon its lumen may make it dangerously small. 2. The sternum and spine are very flexible; they may readily be distorted so as to disturb the relation of the thoracic contents. 3. The lung capacity is proportionately much less than at a later age; there is a greater abundance of connective tissue, the bronchi are larger and the alveoli are but rudimentarily developed. One is not surprised, then, that an infant cannot readily respond to conditions which require an extra amount of respiratory power. This may be the case if the upper air passages are narrowed by a congested state of the mucous membrane, or by a diminished capacity of the alveoli because of an engorgement of the pulmonary vessels, or even because of a faulty position of the trunk, or a careless pressure of an arm or blankets upon the chest.

These conditions necessitate the choice of an anesthetic which relieves in the best manner any tendency to a congested condition of the air passages, and a method of administration which insures full and free respiration. The preference is given to chloroform, though many operators will use nothing but ether. Personally, I am finding ethyl-chloride to be a very efficient agent. My paper before the Associated Physicians last winter covers this ground quite thoroughly (see *Medical News*, May 28, 1904).

Concerning the method of administering, only this need to be said, that all the "don'ts" which are to be heeded in the case of an adult apply equally here; especially the cautions to keep the body warm, to maintain a free air way and to keep pressure off the chest. One particular point needs to be remembered, that a child's head cannot be placed in a position of extreme extension without incurring the danger of blocking the fauces. The manipulation of the lower jaw must be mainly relied upon to maintain open upper air passages.

By the end of the third year, with the completion of the first dentition, the infant is fast losing its immaturity. The anesthetist now has to deal with lungs which are in a state of complete functional activity; the character of the respiratory movement is more pronouncedly abdominal and has decreased in rate from 45 to about 40 at three years and 25 at five years; while the heart has not yet fully assumed its adult position, for the apex beat is to be located in the



fourth interspace, it is more securely anchored and is confined in a less flexible thorax.

The pulse rate has decreased from 110 to about 75 at the end of the second year, and continues until, at the age of five years it is usually about 90.

It is at this time that the manner of administration becomes more important. Shall the child be forced to take the anesthetic or will one allow the child to take its own time? There is no uniformity of opinion on this question. It is a matter of individual aptitude as well as depending upon the occasion and the disposition of the child. I have found that most anesthetists prefer to let the child have its own way, for then they obtain a calmer anesthesia and are better able to control the anesthetic. It happens, though altogether too frequently, that the anesthetist is hurried and cannot do as he pleases, but must, willy-nilly, force the anesthetic. This is the practice in a certain institution when the yearly round up of tonsilotomy and adenectomy cases is made. An assistant starts the etherization and then, before the child is fully under the anesthetic passes it on to the anesthetist, who completes the anesthesia and holds it until the operator is ready for the case. In this manner thirty or forty operations are done in an hour. In private, also, one is oftentimes confronted with the necessity of simply holding a child by main force and compelling it to inhale the anesthetic. In such cases, I strongly favor using either ethyl-chloride or one of the mixtures A. C. E., or one of the Schleich solutions, or Anesthol. They are rapid, pleasant and can be pushed with safety. If a drop of some volatile oil—eucalyptus or gaultheria—is sprinkled upon the cone it will disguise the anesthetic odor somewhat. The cries and coughs but hasten inspiration. I have never had occasion to notice that the psychologic shock was severe or that the danger to the heart is in any way so great as in the case of the adult. Some children will submit very readily, and if one has plenty of time and will use some tact, most every child can be sufficiently persuaded to yield, may be, though a reluctant consent to the imposition of the inhaler. If one will remember always that both ether and chloroform are heavier than air, it will be easy sometimes to give them enough to get used to the smell of the anesthetic even by holding the cone some distance above the face. It is of no little importance to use some form of an inhaler which is as unlike an instrument as possible. I was much interested to notice that in the New York hospitals particularly they

are doing something which I have been practising for some time. That is, to use a so-called paper and towel cone. It is easily put together, is clean, and, best of all, does not frighten the child. (For a description with illustration, see *Medical News*, May 28, 1904.)

At this age, chloroform is not generally employed; yet there is no objection to its use if carefully handled. The very fact of the relatively greater strength of the heart in a child than in an adult, the rare presence of disorders of the circulatory apparatus, together with the acknowledged greater susceptibility of the kidneys and lungs to inflammatory changes, would seem to give chloroform an *a priori* advantage. I believe that custom has a great deal to do with this matter, for certainly in other parts of this country and in Europe a great deal of chloroform is used.

An unpleasant feature of the course of the anesthesia in children is the uncertain behavior of the eye. The child's eye is uncanny; it may remain wide open, but it is not glassy; sometimes the eyeball rolls about in an annoying fashion; occasionally one cannot place any reliance upon the pupillary reflex. Extremes should always be guarded against, especially any sudden dilatation of the pupil from a condition of marked myosis. The pulse may be very rapid—110 or 120 is not alarming; the respiration rate may be much accelerated. But it is the character of these signs which indicate the condition of the patient, and their inter-relations. Of special importance is the appearance of the patient. A blue color is less to be feared than a deepening leaden, ashy pallor. I am always afraid when the lips begin to grow white and the tip of the nose and the ears turn a dirty yellow. A safe rule always is, "when in doubt, stop." Supposing it does mean that the patient vomits and shows you were mistaken as to the depth of the narcosis. Any one who has once anxiously watched for the first faint sigh of a returning respiration will risk a rebuke or ridicule rather than lose a life.

The third period of a child's life is one of a state of nervous instability. It must be treated with all due allowance for a tendency to emotional changes and disturbances of the cerebro-spinal system due to rapid development and active molecular change. Hence, the initial stage of the narcosis is of most importance; the course of the anesthesia follows more closely that of the adult. I should now hesitate to force an anesthesia; yet it requires all the tact one possesses to overcome the timidity and even fear sometimes

which one meets. At this time the so-called "lighter" anesthetics are valuable. The nitrous oxide gas can be used with great advantage as a preliminary to ether; the close-fitting face-piece and the bag are no longer likely to be a source of dread. Gas is not the ideal anesthetic for children. There is no ideal, to be sure. If ethyl-chloride shall prove to be able to quiet the muscular twitchings which are so annoying oftentimes when gas is employed, and can be given long enough to overcome all muscular rigidity, to that degree it will be better than gas, and in so far as these agents can be used to shorten the time of an operation, they will be preferable to both ether and chloroform. If to no further extent, they should precede the others to allow of a more rapid and a more pleasant anesthesia.

Within this period probably most operations for either enlarged tonsils or hypertrophied post-nasal adenoids are done. This phase of the subject opens many interesting questions. Not the least vexatious one is that of the position of the child—in the anesthetist's lap or seated in a chair or on the back or in the Rose position. Shall there be complete anesthesia or only the primary stage, the so-called "talking" anesthesia? Ordinarily Dr. Sturges' practice at the Seney Hospital (Brooklyn) is to be commended. The arrangements are made as for any operation, the patient is in the dorsal position and the anesthetist maintains a complete anesthesia. This, however, may not be practical, except with sufficient assistance. In private work, Dudley's (Brooklyn) plan, to tie the child into a chair, does very well. The anesthetist can be of some assistance to the operator, especially if he will use the simple device for feeding the ether mask, which I will describe later. If now only a talking anesthesia is maintained, the fauces can be easily kept clear of blood and mucus. To the importance of protecting the lower air way, Bennet (New York) calls particular attention in a paper in the April, 1904, *Laryngoscope*. He cites, in this connection, the method devised by Crile (Chicago), who introduces heavy walled rubber tubes through the nostrils to a point in the pharynx opposite the top of the larynx, respiration taking place through the tubes, and the anesthetic applied in this manner. The mouth is kept open and the tongue pulled well forward, while the space thus formed at the back of the pharynx is packed tightly with gauze.

Not many of the major operations are performed on children. Of more than 400 operations done during one year at the St. Mary's Free

Hospital for Children (New York), out of a total of 1,000 cases, less than 10 per cent. were of any magnitude. The operation itself, then, need have no further particular mention in this paper. It is interesting, however, to notice that many of the operations in this report, which is probably a typical one, deal with conditions which reveal some impoverished state of the blood or a lowered vitality. The anesthetist must always carefully note the general condition of his patient, and be on his guard lest anesthetic plus operation plus lowered vitality be not greater than the resisting power of the organism. Of the general conditions which predispose to danger, first and foremost is the *status lymphaticus*. I found an editorial in the *Medical News* in the spring of 1902 which quoted a report from the Children's Clinic at Gratz that all the deaths occurring there during the past twenty years were in patients in whom this condition was proved at the autopsy. I do not know that I ought to do more than just mention this matter, for a most excellent article on the subject appeared in the January, 1904, number of *Pediatrics*. Suffice it to say that the *status lymphaticus* may be suspected in a child whose superficial lymph glands generally are involved—those in the neck and the axilla, the tonsils, the pharyngeal lymphatics, the circumvallate papillae of the tongue. The spleen may be palpable. The child appears to be in perfect health, may be a trifle too fat and perhaps the skin is thin and pale; the complexion pasty. If one encounters such a child it is undoubtedly best to avoid chloroform. Concerning rachitis and scrofula, one can say only what might be said of all depraved conditions. Conserve the strength, hurry as much as possible, use the least possible quantity of the anesthetic. Let the child have nourishment as late as possible before the operation, according to its condition and the nature of the meal. The same rules are operative in these cases in children just the same as in adults.

Concerning the induction of anesthesia while the child is sleeping, I have only to say that it can be done and is a good practice. The difficulties are that one is likely to give too strong a vapor, and to attempt it during a light sleep. Dr. Satterwhite has had some excellent results at the Hospital for Ruptured and Crippled (New York). It frequently happens that the children fall asleep while waiting for the operation and on a number of occasions he has been able to effect a narcosis without the child's knowledge. Such cases have been reported here, too. It has been the pleasure of my own experience as well.

Only this morning I succeeded in continuing the natural sleep of a baby boy into the anesthetic sleep. It was specially desired in this instance, for it was thought to be objectionable to let him become aware of the slight operation which had to be done about the prepuce. It is a procedure which deserves wider practice.

I fear I have left many important matters unsaid, but I hope I have touched the salient points of the subject.

In conclusion, permit me to show you the only new appliances which I have been able to find. This tubular spring is to slip over the ordinary Allis rubber cover so as to make the face opening fit any size face. One or more may be used for a child's face. By its means the regular adult size inhaler can readily be made small enough to fit even an infant's face. This other, a bulb ether container, is fitted, as you see, with a sharp-pointed metal nozzle, so that it can be stuck into a towel cone and enable the anesthetist to manipulate the cone and control the ether supply with one hand. Tieman has made both of these for me. I have found them very handy. Dr. Tucker, of the Eye and Ear Hospital (Brooklyn), taught me a trick the other day which I have used with good results. It is to fold several thicknesses of gauze over one end of the Allis instead of threading it. I like that because I can place one of these 5 grm. tubes of ethyl-chloride into my modified Allis inhaler, put on the cover and obtain a quick and pleasant anesthesia while completing the anesthesia by introducing ether through the side opening.

## TRANSACTIONS OF SOCIETIES.

### THE MEDICAL SOCIETY OF THE COUNTY OF KINGS.

STATED MEETING, DECEMBER 20, 1904.

The President, J. E. SHEPPARD, M.D., in the Chair.

There were about 200 members present.

The meeting was called to order, and the minutes of the previous meeting read and approved.

#### REPORT OF COUNCIL.

The Council reported favorably upon the following applications for membership.

R. W. Shearman, P. & S., 1901.

F. Tilney, L. I. C. H., 1902.

W. J. Campbell, L. I. C. H., 1899.

W. E. McCollom, P. & S., 1903.

W. K. Jacobs, P. & S., 1899.

Jerome Walker, P. & S., 1868.

S. F. Anderson, L. I. C. H., 1889.

R. A. Black, P. & S., 1883.

W. F. Saybolt, Univ. of Penn., 1902.

J. J. Sheehy, Wooster Univ., 1891.

#### APPLICATIONS FOR MEMBERSHIP.

Applications have been received from the following:

Samuel A. Marshall, 22 Prospect Street, Johns Hopkins Univ., 1902. Proposed by J. M. Callendar; endorsed by W. S. Hubbard.

Sigmund Beck, Henry Street, cor. Neptune Avenue, N. Y., Univ., 1892. Proposed by J. C. Hancock; seconded by E. H. Mayne.

M. Mandelbaum, 37 Debevoise Street, N. Y. Univ., 1902. Proposed by J. E. Sheppard; seconded by Membership Committee.

A. Hayman, 73 McKibben Street, N. Y. Univ., 1890. Proposed by J. E. Sheppard; seconded by Membership Committee.

Carl Fulda, 1096 Halsey Street, P. & S., 1901. Proposed by George R. Fowler; seconded by Russell S. Fowler.

Charles Lucius Stone, 166 Halsey Street, Cornell, 1902. Proposed by George R. Fowler; seconded by Russell S. Fowler.

W. B. Moseley, Kings County Hospital, Univ. Virginia, 1890. Proposed by Cecil MacCoy; seconded by A. C. Brush.

James E. Thompson, 223 Greene Avenue, L. I. C. H., 1897. Proposed by L. A. McClelland; seconded by Membership Committee.

The following are proposed by the Membership Committee:

John J. Dowling, 256 Tompkins Avenue, L. I. C. H., 1899.

Emilio L. Hergert, 1275 Hancock Street, L. I. C. H., 1896.

Frederick M. Jacobs, 194 Prince Street, L. I. C. H., 1901.

Joseph Francis Ward, 152 Fourteenth Street, Baltimore Univ., 1899.

John D. Doyle, 228 Ninth Street, Queens Univ., 1898.

F. D. Moore, 801 Prospect Place, Univ. Penn., 1898.

W. W. Colby, 717 Halsey Street, Bellevue, 1896.

#### FOR HONORARY MEMBERSHIP.

Dr. William Osler, Johns Hopkins University, Baltimore, Md. Proposed by William Browning.

## ELECTION OF MEMBERS.

The following having been duly proposed and accepted by the Council, were declared, by the President, elected to active membership:

Edward R. Hildreth, Cornell, 1902.  
 F. H. Wilson, P. & S., 1904.  
 H. C. McChesney, P. & S., 1902.  
 D. Sherman, L. I. C. H., 1896.  
 N. McS. Whittaker, P. & S., 1903.  
 C. F. Bolduan, P. & S., 1901.  
 H. J. Wood, Albany Medical Coll., 1885.  
 Kurt Elsner, Univ. Munich, 1897.

## SCIENTIFIC PROGRAM.

1. Paper: Some Forms of Dyspnoea and Their Treatment. By Dr. John A. McCorkle.

Discussed by Dr. Fairbairn.

2. Address: In Memoriam of the Deceased Members during the past year. Rev. J. Howard Mellish, Rector, Holy Trinity Church.

## EXECUTIVE SESSION.

The following resolution was read, and, on motion, duly carried, adopted:

WHEREAS: The President of the New York State Optical Society has announced that the Bill to Define and Regulate the Practice of Optometry, which failed to pass at the last session of the Legislature, will be brought up again for consideration; and

WHEREAS: The claim is falsely made that seventy-five per cent. of the general medical practitioners favor this measure; and

WHEREAS: We believe from the publications of the opticians who favor this Bill, that they not only desire to, but are now actually engaged in, the practice of a branch of medicine in violation of the present medical law; BE IT

RESOLVED: That the Medical Society of the County of Kings, in meeting assembled, protests against the enactment of such a Bill as contrary to the best interests of the people of the State of New York.

RESOLVED: That a copy of this protest be forwarded to each Senator and Assemblyman representing this County.

RESOLVED: That a Committee of Three be appointed to take such action as may seem best fitted to accomplish the defeat of this and similar measures.

The following resolution was read, and, on motion, duly carried, adopted:

WHEREAS: The present lease of the Long Island State Hospital, Flatbush, to the State, expires September 30, 1905:

AT A MEETING of the Consulting Staff of said hospital, held November 3, 1904, it was moved and seconded, that in the interests of humanity, as well as medical science, and for the proper treatment of the insane, it is imperative that a permanent hospital be maintained in this Borough for the care and treatment of those of unsound mind: AND IT IS FURTHER

MOVED: That this Resolution be presented to the various medical societies in the Borough of Brooklyn, for consideration.

Unanimously carried, all of the following members of the Consulting Staff voting in the affirmative:

Dr. WILLIAM BROWNING,  
 Dr. HENRY A. FAIRBAIRN, Sec'y,  
 249 McDonough St., Bklyn.  
 Dr. ALGERNON T. BRISTOW,  
 Dr. GEORGE MCNAUGHTON,  
 Dr. WILLIAM MADDREN,  
 Dr. CALVIN S. BARBER,  
 Dr. JAMES M. WINFIELD,  
 Dr. JAMES C. HANCOCK,  
 Dr. FREDERICK PETERSON.

Nominations for officers of the Society for the ensuing year were then made, as follows:

For President—E. H. Bartley, J. W. Fleming.

For Vice-President—W. F. Campbell, C. F. Barber.

For Secretary—J. A. Lee, W. C. Woolsey.

For Associate Secretary—W. F. Jewett, T. V. Hegeman, N. P. Rathbun.

For Treasurer—O. A. Gordon.

For Associate Treasurer—J. R. Stivers, H. C. Keenan.

For Directing Librarian—J. M. Winfield.

For Trustee—J. E. Sheppard.

For Censors—W. C. Wood, J. P. Warbasse, W. F. Dudley, T. R. French, H. G. Webster, P. M. Pilcher, A. M. Judd, W. B. Brader, N. P. Rathbun, F. B. Cross.

For Delegates—Dr. Webster made a motion that the naming of the 71 delegates to the State Society be referred to the Council with power to nominate the full list. Carried.

It was duly moved, seconded and carried, that those delegates who had been named during the preceding two years, up to the limit of 21, in so far as said delegates attend the State Society meetings, be those whose dues shall be paid by this Society.

Adjourned.

W. S. HUBBARD,  
 Secretary.

## MEDICAL SOCIETY, COUNTY OF KINGS.

## SECTION ON PEDIATRICS.

49TH REGULAR MEETING OF THE SECTION, HELD  
ON WEDNESDAY, SEPTEMBER 28TH, 1904.

WM. A. NORTHRIDGE, M.D., Chairman.

R. TAYLOR WHEELER, M.D., Editor.

## I. EXHIBITION OF A CASE OF CRETINISM.

DR. E. H. BARTLEY.

Child now seventeen months old. Has been on thyroid extract,  $\frac{3}{4}$  grain three times a day. Treatment was started when child was seven months old.

Before treatment, his convulsions were very frequent, but of late they are becoming more and more rare. At seven months he could not hold his head up; now he can. He was breast-fed for twelve months. I do not present this as an absolute case of cretinism, as all the symptoms of the disease are not present.

Rachitis is to be thought of, but there are even very few of the evidences of that.

## SURGICAL ANESTHESIA IN CHILDHOOD.

DR. A. F. ERDMANN.

*Discussion.*

Dr. WM. P. NORTHRIDGE: After hearing the paper, several questions rise in my mind. 1st. What is the most kind and skillful method of giving anesthetics to children? 2d. Do children suffer more from the anesthetics or the shock of operation? 3d. What is the best anesthetic to use.

In answer to question two, would say that I find shock of operation causes more trouble.

4th. How long should a child go without food before and after operation?

Dr. C. LE GRAND KERR: I give a cup of warm milk diluted, up to a time as late as one hour before operating.

Children fear two things very badly, viz., pain and hunger.

The operator should never be in a hurry but should wait patiently for the anesthetic to be properly given.

It is perfectly proper to chloroform a sleeping child. The breathing then is perfectly regular and can be used as a guide.

We should guard against loss of body heat during operation.

The danger of an anesthetic in children is not so much from the toxic element as from the asphyxial.

Plan the operation well ahead so that there shall be no loss of time.

Dr. LUDLAM: In my choice of anesthetics, I give, by far, the preference to ether. This works especially well in adenectomy. I have seen quite an alarming effect on the pulse in some cases even when chloroform was given by the drop method. I would give ether even in very young children (four months). It cuts off shock of operation.

Dr. PARRISH: My preference, too, is decidedly for ether. I have given up chloroform entirely and never have any complications after ether.

Dr. E. H. BARTLEY: I am glad there are some medical men who are giving up their time to the special study of anesthetics. I hate to see a man pushing an anesthetic. I have always preferred chloroform. The ease of giving at the start and the rapid moving is a great factor.

Dr. C. LE GRAND KERR: I have been going on using ethyl-chloride this year as much as ever except in throat and nose cases. The rigidity of the muscles of the jaw that sometimes occurs during its use bars it out in these cases. For opening abscesses, especially in office practice, its field is large.

Dr. A. F. ERDMANN: My own preference is rather for chloroform before ether, but if I should tell the whole truth, I would say I like one of the mixtures better than either. We must remember, in giving an anesthetic during sleep, that the deepest sleep is during the first half hour and the longer sleep goes on the lighter it becomes, so don't wait until nearly the time a child would naturally awaken to begin your anesthetic.

## THE BROOKLYN SURGICAL SOCIETY.

REGULAR MEETING, NOVEMBER 3, 1904.

The President, W. B. BRINSMADE, M.D., in the Chair.

## GRAPE SEEDS IN THE APPENDIX VERMIFORMIS.

Dr. PAUL M. PILCHER presented a specimen of an appendix containing grape seeds. The case was that of a man who had recurring attacks and was operated on during the interval. The appendix was dilated, and constricted near the cæcum. It contained six grape seeds. There could be no question about the character of the seeds, he said, as one had been sectioned and the examination proved conclusively its character.

*Discussion.*

Dr. C. H. GOODRICH said that while it is rather rare to find foreign bodies in the appendix, he had

two such cases in the last year. One was a grape seed and the other was a raspberry seed.

Dr. J. R. KEVIN stated that about six years ago he had operated on a child seven years of age, and found a rusty pin in the appendix. This was the only foreign body he had ever seen in the appendix.

Dr. B. B. MOSHER had but once seen a seed, although he had seen three separate cases with a pin in the appendix. The cases were seen in St. Peter's Hospital.

Dr. C. H. TERRY said that Dr. Downey reported a case two years ago which occurred in St. Mary's Hospital, in which he operated and found a wire nail in the appendix. It was the largest article he had ever heard of in the appendix.

#### RESECTION OF LOWER JAW FOR SARCOMA. EARLY APPLICATION OF INTERDENTAL SPLINT.

Dr. PAUL M. PILCHER reported the case of a female, aged 22, admitted to the Methodist Episcopal Hospital, service of Dr. L. S. Pilcher, August 15, 1904.

Twelve months ago she noticed a swelling on the alveolar process of the inferior maxilla, right side. In December, 1903, she had a tooth extracted from the enlarged alveolus and the swelling incised. No reduction in its size followed. April 29, 1904 Dr. Pilcher removed through the mouth all the apparently involved gum with the underlying alveolar process. Microscopic examination of the tissue removed showed it to be a sarcoma of the bone. The operation wound healed promptly, but recurrence of the growth quickly became evident and she returned to the hospital August 15, 1904, at which time the inferior maxilla about two inches to the right of the symphysis presented a distinct tumor involving the bone. Its outline was regular and the surface smooth. The growth did not involve the soft parts and was not visible externally, but seemed to involve the entire thickness of the bone. Its consistency was hard. There was no tenderness and no glandular enlargement in the neck. The lower molar teeth on the right side had been extracted.

OPERATION.—Through a one inch incision below the angle of the jaw on the right side, a Gigli saw was passed around the maxillary bone behind the last molar tooth by means of a silk carrier. The jaw was then sawed through at this point. The first incisor tooth was then removed on the right side and the Gigli saw passed around the jaw at the symphysis. This was done from within the mouth. The inferior maxillary

bone was then sawed through at the symphysis. A portion of the jaw from the symphysis and angle was then removed by incisions through the mucous membrane close to the jaw, and cutting the muscular attachments. A small drainage tube was placed through the external wound surrounded by iodoform gauze. The mucous membrane was sutured with interrupted chromic sutures, and the wound packed firmly with iodoform gauze, the end coming out anteriorly.

On the following day an interdental splint was fitted, which had previously been prepared by Dr. Russell. This was introduced and kept in place for some weeks, while the wound was cicatrizing. By this means was prevented any deformity from dropping in of the unsupported portions of the jaw. The wound healing was uncomplicated; and after it had been sutured, Dr. Russell put in place a dental prosthetic appliance, consisting of a plate having a "plumper," which fitted into the space left after removal of the section of jaw. At present the patient is able to eat without inconvenience, and there is very little external deformity.

#### Discussion.

Dr. J. P. WARBASSE said that the particular point in these cases which impressed itself on him was the necessity of early application of a prosthetic apparatus to hold the cheek plump and the remaining segment of the jaw in place. Very often the application of such a prosthetic apparatus is deferred until the contraction of the scar has become so strong that the remaining fragment of jaw is pulled out of position, and there is not enough elasticity left to permit pressing the jaw out again. The point he would make is the necessity of very early application of such a plumper.

Another point, he continued, which shows in this particular specimen, is that in many of these cases, instead of taking out a whole segment of the jaw, one may leave just a sufficient bridge of bone on the lower aspect of the inferior maxilla to connect the two parts, so that the inferior contour of the jaw is not destroyed. He stated that he had been able to do that in a case very similar to this. However, he admitted that in the case under discussion, the tumor extended so far down, that that would have been scarcely possible. It could have been done, but the surgeon was justified in removing all he did, for he had reason to believe that the entire thickness of the bone was involved. Nevertheless, this particular case would have lent itself to that special operation if the base of the tumor-bearing bone had been

removed with the rongeur; and then a sufficient bridge of the lower segment of the bone could have been left to connect the two parts.

Dr. PAUL M. PILCHER replied that the first operation had been conducted on the lines suggested by Dr. Warbasse, in the hope that thereby full removal of the disease might be effected without the disadvantage and probable deformity that a more radical operation would entail. The prompt regrowth of the tumor *in loco* had demonstrated the futility of the proceeding. Even had it been technically possible to remove the disease completely, leaving behind a bridge of bone to preserve the continuity of the jaw, it was to be remembered that after such an operation more or less atrophy of the bony tissue takes place, and he had in mind one case in which after such a bony bridge had been left, the bridge was broken very quickly, and, consequently, no advantage accrued from it. Dr. Pilcher believed that in sarcomatous growths the cells are found often outside of the capsule, and it seemed to him that if any portion of the bone had been left in the region involved in this case, that there would have been great danger of recurrence. He called attention to the form of the tumor as being more or less egg-shaped, so that the cavity came down to the inferior border of the lower jaw. In these cases it might seem, he said, from the outside that one could have left a sufficient bridge of bone, but towards the middle of the bone the involvement might be so deep, that even the small bridge left might be involved, and it was his general experience that a surgeon should go very wide of such a tumor mass in order to secure the patient certainty of entire removal of the disease.

He stated that in some of these cases he had himself examined the jaw, and often found sarcoma cells some little distance from the main tumor mass. In this case not only did the operator go wide of the tumor on one side, but he went fully an inch on the other side toward the median line so as to encompass the tumor. He repeated his belief that in this case he would not have been justified in leaving any bridge at all.

#### EXCISION OF ILEO-CÆCAL COIL FOR TUMOR OF CÆCUM AND APPENDIX.

Dr. PAUL M. PILCHER, in reporting this case, stated that the patient was a man aged 35, admitted to the Methodist Episcopal Hospital May 3, 1904, in the service of Dr. L. S. Pilcher. As to the family history, it might be said that a grandmother died of cancer, and the only previ-

ous history of illness was malaria, which the patient had three years ago.

His present trouble began two years ago, when he suffered from an attack of pain localized in the right iliac fossa, which lasted two or three days. There was no tenderness over this region except on active motion. He had no fever nor chills, but was constipated. A second similar attack occurred eight months ago. Since this last attack he has had a more or less constant feeling of discomfort in this region. Seventeen days ago he had a third attack similar to the first. The pain was severe and the area very tender. He had no vomiting or fever, but did have some nausea.

On examination of the abdominal wall there was found in the right iliac region a small lump, the size of a walnut, firm, tender to pressure, flat on percussion, not fluctuating, slightly movable.

After incising the peritoneum, this was found to be markedly thickened and adherent to the underlying tumor mass. The peritoneal cavity was opened to the inner side of the area of adhesion. Palpation revealed a new growth involving the appendix and head of the cæcum, and infiltrating the lateral abdominal wall. A wide excision of the abdominal muscle mass was made, freeing the growth, after which the operative procedure included three steps, which Dr. Pilcher detailed as follows:

1. Division of Ilium. Purse string suture of silk passed about ilium six inches from the ileo-cæcal junction, then two ligatures of heavy catgut about half an inch nearer the cæcum. Gut divided between the catgut ligatures, and stumps cauterized with carbolic acid. Stump of ileum inverted, and purse string suture drawn up tight. A continuous silk suture to further close stump.

2. Ligature in sections of the mesentery and meso-colon with removal of a small portion of the ileum, cæcum and about five inches of the ascending colon, divided and sutured in the same manner as the ileum with a silk purse-string suture. Wound cleansed and a drainage tube passed out at the right lumbar region. Layer suture of abdominal wall.

3. Median four-inch hypogastric incision from umbilicus downward. A lateral anastomosis between the end of the ileum and the transverse colon. Large intestinal clamps used in this procedure and silk used for both mucous and peritoneal coats. Suture of abdominal wound.

The bowels moved on the second day after operation. The recovery was uneventful. Both wounds healed by primary union.



*Discussion.*

Dr. J. P. Warbasse said that the relation of malignant growths to the appendical region has attracted a good deal of attention, and we all know that many cases of malignant disease of the cæcal region have been mistaken for appendicitis. Indeed, so common is this complication that the most careful diagnostician is often mistaken. He recalled a case of cancer of the cæcum in which not to have made a diagnosis of appendicitis would have been really bad judgment—the case was so much more like an appendicitis than it was like a carcinoma of the cæcum. There had not been enough tumor to have caused obstruction, but there had been an ulceration of the cæcum in the base of the tumor mass, so that a perforation resulted with the formation of pus and the development of an abscess involving the appendix itself. For the surgeon to have made any diagnosis other than appendicitis would have been unexpected.

Dr. Warbasse added, that in this particular case he regretted very much that Dr. Pilcher did not present the pathological report. From gross appearance of the specimen, he would say the deposit in the wall of the cæcum and the appendix was purely inflammatory, and, consequently, a diagnosis of appendicitis was justified, because that is what it was.

## FRACTURES OF THE BASE OF THE SKULL.

Dr. C. H. Terry said that on June 17th last in an accident on a trolley car, as the passengers made a rush to get off the car, two women were thrown to the ground, causing a fracture of the base of the skull in each case. While no operative interference was required in these patients, still two injuries of a similar general character, occurring at the same time, he found interesting to observe, and the progress and sequelæ he thought might be found deserving of note.

The first case, Miss W., a typewriter, 43 years of age, was seen at St. Mary's Hospital about an hour after the accident. She was then unconscious, was vomiting and had hemorrhage from the right ear and nostril. The stupor continued for about ten days, during which time she had involuntary evacuations. She could swallow liquids, a teaspoonful at a time, with great difficulty. Then she became violently delirious, so violent that she had to be constantly restrained from jumping out of bed. She suffered most intense headache and insomnia, which could be relieved only by full doses of morphine after other hypnotics had failed. About the sixth week of her stay in the hospital the character of the de-

lirium changed to one of ecstasy. She became excessively polite, all things seemed to her to take on a roseate hue, she condescendingly obeyed every request, she began to control the action of her bowels and bladder, and for the first time since her admission to the hospital she showed signs of improvement. Up to this time serious doubts were entertained as to the final state of her mental condition.

In the seventh week her hallucinations all disappeared during waking hours, but the most horrible dreams tortured her at night, even without the use of hypnotics. She was now apparently perfectly sane, but very melancholic. She began to walk with the assistance of a person on each side of her, and left the hospital in the eighth week after her injury. Two or three weeks later she began to walk alone, but she could not progress in a straight line, always bearing off to the left. This he believed indicated trouble in the cerebellum.

At the present time, four and one-half months after the injury, the patient is pale and enæmic, has not gained 21 pounds lost during her illness, has a poor appetite, is more or less despondent and wanders around in a listless manner. Want of employment may account for this condition to a certain extent. What the ultimate result of this injury may be, he said, will be interesting to know.

Mrs. C., age 23, was injured at the same time and in the same manner as the above mentioned case. She had all the symptoms of fracture of the base of the skull, coma, vomiting, hemorrhages from left ear and nostril. In addition she had a fracture of both the tibia and fibula of the left leg just above the ankle. She remained comatose for about two weeks, and when she began to regain consciousness it was noticed that she had ptosis of the left eye, inequality of pupils, and still later the whole of the left side of the face was paralyzed. Her general condition continued to improve, and she left the hospital about a month after the accident. Since then Dr. Terry has treated her at her own home. Dr. Lee applied retentive apparatus for the fracture and a perfect result was obtained.

These patients while in the hospital had the treatment generally adopted for this class of injury, viz.: ice cap, heat to the extremities, bromides, ergot, strychnia, iodides, etc. Only in the first case was morphia necessary. The ears and nostrils were washed several times daily with a solution of boric acid and afterward filled with iodoform gauze.

The paralysis of the face in the second case has very greatly improved under the use of electricity, so that now it could be hardly noticed unless attention was called to it. At this time he did not think there had been any improvement in her hearing nor in the sight of the left eye. A specialist examined her recently and says he believes she has a beginning atrophy of the optic nerve, and within a year she will be totally blind in that eye. Her general health he did not think was as good as it was two months ago, whatever might be the cause.

#### *Discussion.*

Dr. J. A. LEE said that the peculiar feature that appealed to him in both these cases of fracture of the skull was the opposite conditions the patients presented. In the first case Dr. Terry mentioned the delirium was of a specially noisy and disturbed character, the patient requiring the almost constant attendance of two nurses. She was kept in bed only by force. This condition persisted for weeks. There was a constant dilatation of the pupils and an incontinence of urine and feces. The most peculiar feature of the case was the rapidity of the change. He specially remembered going to see her one afternoon in the ward. She did not know anyone, was delirious and very boisterous in her conversation and actions, and the next morning when he called upon her she was the embodiment of ladylike politeness and did not recall the actions of the previous day.

The other case, after she recovered from her comatose state, presented no evidence of any mental disturbance. The results of her accident seemed to be entirely physical. Her mind was calm and passive. She slept without the use of hypnotics, but complained of headache for some time. That subsided of its own accord. The paralysis of the muscles of the face and eyelid was very pronounced. On Dr. Terry's advice Dr. Lee gave electrical treatment. The stimulus caused rapid contraction of the orbicularis palpebrarum and relieved the paralysis in a short time. The point that he wished to call the attention of the Society to was the opposite conditions presented in two cases of fracture of the base of the skull occurring at the same time and place and in the same manner. In one case the symptoms were largely physical, and in the other largely psychical.

#### SUTURE OF OLD FRACTURE OF THE PATELLA.

Dr. C. H. TERRY reported the case of a young man who two years ago last spring broke his pa-

tella. The speaker did not know what treatment was followed. He came to St. Mary's Hospital last June, stating that he had fractured the patella a second time two months previously, but had not applied for treatment at the time. Dr. Terry stated that he had cut down on the patella with the concavity of the incision looking upward, and on opening the joint found in the posterior portion of the head of the tibia a yellowish pinkish growth about the size of a quarter of a dollar piece and three or four times as thick. It was very vascular and bled very freely. He curetted this away, and found afterward there had been no attempt whatever on the part of Nature to throw out a ligament between the fragments. The broken fragments had become atrophied, so that in freshening the edges he had to cut a good deal of tissue away in order to get a solid portion for suture. An attempt was made to draw the fragments together with silver wire, but the sutures broke and he made use of chromic gut. The leg was put up in plaster for six weeks. The wound healed by first intention, and the man now has a very good leg. Motion is more or less limited, but still he has a perfect patella.

#### VESICAL CALCULI FOLLOWING SUPRAPUBIC LITHOTOMY.

Dr. T. B. SPENCE exhibited vesical calculi he had removed from a patient at the Methodist Episcopal Hospital a week ago. This man gave a history of having had an operation for calculus four years ago, after having symptoms of such a condition for three years previously. He was operated on four years ago suprapubically, and was left with a suprapubic sinus which would not heal. At the end of two years that was operated on and closed, a perineal tube being used for drainage, but following this operation he had still some irritation of the bladder, and apparently for the last two years he had been suffering from vesical calculus again.

He was admitted to the hospital with a fluctuating, tender mass in the suprapubic scar. The day after he came into the hospital this opened and urine escaped through the sinus. He was operated on and these rather usually large stones were removed from the bladder, the larger weighing 70 grams and the smaller 53 grams, approximately four ounces for the two.

#### ABSCESS OF THE LUNG WITH SLOUGHING.

Dr. W. H. RANKIN showed a patient, a man about 28, who after a pneumonia had a considerable amount of lung tissue become gangrenous and slough away. Thoractomy was performed.

There seemed to be a very large cavity in his lung. When the first dressing was taken down a forceps placed in the cavity took away pieces of the lung, and for two weeks afterward great masses of sloughing tissue came away. The scar tissue resulting from the abscess seems to have obstructed the lower part of the lung, and he has very little breathing at the site of the lesion. He is, however, very comfortable and well. Dr. Rankin expressed his wonder that a man could have so much lung tissue destroyed in so short a time.

#### ABSCESS OF LUNG.

Dr. W. H. RANKIN reported the case of a man, 36 years old, admitted to St. John's Hospital May 12th. He had always been well, but never very strong. Two years ago he had a pneumonia from which he recovered, and had remained well until two weeks before he entered the hospital, when he was again seized with pneumonia complicating pleurisy. At the end of a week from the beginning of his illness he was much better, but after a day or two his breathing became more labored and his temperature began to increase from day to day until the time of his admittance, when it was 103.4; P. 120, R. 30. On inspection there was a slight fullness on the right side and very little respiratory movement. Percussion brought out dullness everywhere in the right lung excepting at the apex. From the axillary line forward for a circumference of five or six inches over the fourth, fifth and sixth ribs, the percussion note was flat. Over the upper part of the lung there was bronchial breathing excepting at the apex, where it was broncho-vesicular in character. A diagnosis of empyema and abscess of the lung was made. Under cocaine anesthesia a piece of the sixth rib was removed, allowing several ounces of pus to escape from the pleural cavity. The abscess was quite superficial and easily opened, when more pus escaped, exposing to view large pieces of gangrenous lung tissue. A considerable quantity of this was taken away with dressing forceps and the cavity drained.

This gangrenous lung tissue continued to come away for several days. At the end of two weeks the lung cavity was irrigated with acetozone and the patient very rapidly improved. After being in the hospital five weeks he was given general anesthetic, and a portion of four ribs over the cavity in the lung removed, allowing the chest wall to collapse onto the shrunken lung. The patient left the hospital July 8th much improved in health and with the wound closed. At the present time

the breathing over the lower part of the lung is very imperfect, and Dr. Rankin feared that the extensive sloughing and scar tissue had damaged it beyond repair.

#### AMPUTATION OF THE THIGH FOR TUBERCULAR ARTHRITIS OF KNEE.

Dr. W. H. RANKIN reported the case of a female, age 38, who entered St. John's Hospital May 12th. Her father and mother died of tuberculosis, also one brother, one sister and several cousins. She was a delicate child. When twelve years old she had typhoid fever, from which she convalesced slowly. At thirteen years of age the right knee became swollen, stiff and painful, and never afterward became quite normal. Every few months it would puff up, be painful in walking, with the limit of motion lessened, but after prolonged rest and simply counter irritant treatment it would become fairly comfortable in walking, and the swelling disappear until the diseased knee would be little larger than its fellow.

These recurring attacks continued until she was 25 years old, when the leg above the knee became swollen and painful, and she then began to have daily elevations of temperature. She then sought treatment in the Long Island College Hospital, where some necrosed bone was curetted from the femur and amputation advised. This she declined, but within a year went to the Roosevelt Hospital, where the thigh was freely incised in several places and more necrosed bone removed. At the end of a year from this subsequent operation the wound closed and the patient was able to resume her occupation as a dress-maker. For the past ten years she has suffered but little inconvenience or pain from her leg. The knee would occasionally puff up, but subside after rest, leaving but little soreness or discomfort in walking.

During the past year she has been much on her feet caring for a cousin suffering from tuberculosis. In March the internal condyles of the right femur became increasingly painful. The leg about the knee became swollen, the skin reddened, and within a few weeks there was formed an abscess. This was opened under an anesthetic, and some necrosed bone curetted from the internal condyle by her physician. As she did not improve, on the advice of her physician she came to St. John's Hospital to have the leg amputated. At the time of her admittance the right knee was larger than the left. There was appar-

ently little fluid in the joint, but above the patella it was doughy or boggy to the touch. There was some pus discharging from the wound, as well as a considerable burrowing of pus around the joint. The patient was suffering quite severe pain and had had a temperature for some time, which had weakened and emaciated her considerably. As the tubercular process had evidently extended into the joint, as well as into the shaft of the femur, it was thought advisable to amputate the limb well above the knee rather than attempt an excision of the joint. She sustained very little shock at the operation. The wound healed kindly, and two weeks afterward she returned to her home, regaining her strength very rapidly.

#### PERINEPHRITIC ABSCESS IN A CHILD SIX MONTHS OLD.

Dr. W. H. RANKIN reported the case of a male child, who first came under his care when six months old. The mother gave the following history: At birth the child was healthy, of average weight, and although the mother was unable to nurse him at the breast, he seemed to thrive nicely on artificial food until he was four and one-half months old. Whereas he had been eager for his bottle up to this time, he now became indifferent to his food and gradually became fretful and ceased to thrive. As the food was thought to be the cause of his condition it was changed, but with no benefit, for the child began to lose weight and become much more restless, crying a great deal and sleeping only for a short time. When he was stripped for inspection the mother remarked that he seemed to cry less when lying in his crib than when he was fondled. With his clothing off it was noticed his right leg was drawn up and could be flexed on the abdomen without resistance, but to extend it caused him to cry. He was poorly nourished, there was considerable distention of the belly, and there was a very long prepuce. Turning his face down, it was at once apparent that there was a deflection of the spine to the left side in the lumbar region, and the ilio-costal space to the right was slightly fuller than on the opposite side. The muscles on the right side were quite rigid and there was some tenderness on pressure. He was then having increased temperature.

Although the patient was but six months old, Dr. Rankin did not feel quite safe in excluding the spine as the source of the trouble. He, therefore, asked Dr. V. P. Gibney to see the child with him. Dr. Gibney concurred in the diagnosis of

perinephritic abscess, and advised operation. Under chloroform anesthesia, Dr. L. H. Rankin made an incision in Simon's line, and evacuated about two ounces of thick pus and drained. At the same time he circumcised the patient. After the operation the child immediately began to improve and is now perfectly healthy.

The interesting point in this case, he said, would seem to be the source of the infection in so young a child. He had not been suffering from any exanthematous disease. There was not and had not been any sores any place in the body. There was not elsewhere any infection and there had not been any. At the time he saw him there was, to be sure, much intestinal disturbance, but previous to the commencement of his illness he was apparently perfectly well. The speaker thought it possible that the bacteria which are known to be eliminated from the kidney could reach the fascia renalis through the free anastomosis in the veins between the kidney fascia, the capsule and the renal parenchyma.

#### THE BROOKLYN GYNECOLOGICAL SOCIETY.

STATED MEETING, OCTOBER 7, 1904.

The President, W. E. BUTLER, M.D., in the Chair.

##### REPORT OF CASE: ADENO-PAPILLOMA OF OVARY.

Dr. S. J. McNAMARA: This specimen the pathologist has reported on as an adeno-papilloma of the ovary. The patient was 55 years of age, and the abdomen was almost as large as a pregnancy at term. She had previously been operated on at Bellevue four years ago, and the uterus and left ovary had been removed. We found this cyst contained 44 ounces of fluid of a turbid brown color and putrefactive odor, alkaline reaction, specific gravity 1027, and contained epithelial and pus cells. There is not much of interest in the history, but it is a rare specimen in my experience.

##### REPORT OF CASE: RUPTURED TUBAL PREGNANCY.

Dr. S. J. McNAMARA: This specimen is taken from a woman who had previously been operated on for ectopic gestation. She was 28 years old, Russian, married ten years, three children, no miscarriages. Last child five years ago. Menses regular, no cessation or irregularities, except the last period it continued three weeks and up to the time of examination, August 20th. On close

questioning she admitted having had severe pain at her last menstrual period. On August 21st, she had severe pain with collapse. There were no vaginal symptoms of ectopic pregnancy, the hemorrhage was into the peritoneal cavity, and could not be detected by vaginal examination. She came in for the prolonged menstrual flow. I examined her the day before she went into collapse and did not make the diagnosis. The next day I was called to the hospital and found her in collapse. Even then there was nothing to make the diagnosis, and we operated on the symptoms. We did not know she had been operated on previously. Inquiry elicited the fact that she had been operated on for the same condition. She made an uninterrupted recovery.

I thought at the time that the pregnancy might have been intramural, but examination of the specimen shows that the rupture took place near the distal end of the tube and not the uterine end, so I am unable to account for the hemorrhage into the uterus, although it was similar in character to the blood we took out of the abdominal cavity.

#### *Discussion.*

Dr. C. JEWETT: I do not know if I got all the history. Did I understand the Doctor that there was a hemorrhage into the uterus, and what was the reason for supposing it came from the tube? Did the hemorrhage occur into the uterus in the ectopic case? What was the evidence the hemorrhage occurred from the tube to the uterus?

Dr. S. J. McNAMARA: No evidence at all. It was similar in color to the kind of blood we found in the abdominal cavity.

Dr. JEWETT: May not that blood have come from the endometrium?

Dr. McNAMARA: Yes. The woman having had no irregularity up to the period preceding led me to suppose there was some connection between the ectopic and the discharge of blood from the uterus.

Dr. JEWETT: There almost always is a hemorrhage at the time the tube ruptures. This I take it as due to the separation of the decidua, which is developed in every case of ectopic gestation.

Dr. McNAMARA: The point of interest was the difficulty of diagnosing that the rupture had taken place into the peritoneal cavity and very little or no vaginal signs of ectopic.

Dr. G. McNAUGHTON: I understood the Doctor did elicit after careful inquiry a lot of pain

preceding the commencement of the flow, which was the last flow she had.

Dr. McNAMARA: Upon close questioning she admitted some pain. She had little intelligence and probably would not notice a small amount of pain.

Dr. McNAUGHTON: The point I wished to make was, if you inquire carefully in these cases, you can almost always make out a very decided attack of pain. It is very rare that they rupture without it.

It is a difficult matter to map out fluid in the peritoneal cavity unless circumscribed, or unless it is a coagulum, so as to give a little resistance. The Doctor's diagnosis in this case was interfered with by the previous condition on the opposite side from the former operation.

Dr. JEWETT: In this case the failure to make the diagnosis apparently was due to the inability of the patient to give a clear history. The diagnosis ought to be made in practically every case of recently ruptured tube in ectopic gestation. The salient diagnostic points are a skipped period, often antecedent sterility, pain which is abrupt and usually intense; in case of much internal hemorrhage, collapse, and genital hemorrhage which is more or less irregular. This complex of symptoms is very characteristic, and enough as a rule to make the diagnosis. Ectopic gestation is not always easy of recognition, but a ruptured ectopic pregnancy should be recognized almost invariably if the history can be relied on.

A large proportion of these cases are not ruptured tubes, but tubal abortions, and it is a question to what extent the patient may escape extreme pain in tubal abortion. It is not so pronounced probably as in rupture, particularly in a pregnancy well out in the ampalla.

#### REPORT OF CASE: RECTO-VAGINAL FISTULA.

Dr. C. JEWETT: I saw a case yesterday that was unusual. The woman was confined two weeks ago. She was a primipara. The doctor said that the labor was normal and had lasted only five or six hours and no intervention was practiced. The child was small, weighing less than seven pounds. The woman had a recto-vaginal fistula close to the sphincter and large enough to admit the thumb. The tear ran transversely.

I expect to close it in a day or two by liberating the anterior rectal mucous membrane above the fistula, bringing it down and suturing

it to the anal margin, and then closing the rest of the septum, with silk-worm gut.

Dr. McNAMARA: Was there any previous history of rectal trouble, either hemorrhoidal or rectal ulcer?

Dr. JEWETT: There was no history of irritable ulcer, stricture or syphilis.

#### FURTHER REMARKS ON ESERIN SULPHATE AFTER ABDOMINAL SECTION.

Dr. C. JEWETT: Since I presented this matter a month or two ago I have used eserine in 28 cases after abdominal section. The experience has been similar to that I detailed before. The patients have been much more comfortable, tympanites has been less frequent and never pronounced, thirst diminished and nausea almost absent. Most important of all, bowel movements have easily and promptly been secured within 48 hours after operation.

I have not used the A. B. & S. pill as suggested by Craig. Calomel and salines were given in but few instances. Usually after 1-40 grain of eserine the bowels have acted at once in response to a single molasses enema.

In 88% there was practically no tympany. This, however, is a matter that depends largely upon the extent of exposure and handling of the intestines. Eserine will not always prevent it.

I reported a case of marked apparent obstruction, mainly parietic, which had resisted all other measures. A hypodermic of eserine salicylate, 1-60 grain, repeated after 12 hours, was followed by complete and permanent relief. In a similar case at the Long Island College Hospital, in the service of one of my colleagues, extreme parietic obstruction was promptly overcome by a single dose of eserine, followed in three hours by the molasses enema. Eserine cannot be expected to act in established mechanical obstruction. It was given recently at the Bushwick Hospital in a case of obstruction due to adhesions, with appendicitis, but without effect after repeated doses. Murphy, of Chicago, by the way, in a review of two thousand cases, says the typical order of beginning symptoms in appendicitis is pain, vomiting, tenderness and temperature. When a case departs from that order he is doubtful of the diagnosis of appendicitis. In the case just referred to, if the history was right, there was no vomiting for days, no elevation of temperature, except for a few hours, when it was 102. The abdomen was opened by Dr. Schauf; a large concretion was found in the appendix, which had nearly ulcerated

through. There was a large mass of intestine densely matted together around the appendix.

Dr. Taylor, when I first brought up this subject at a recent meeting, suggested that the eserine might perhaps better be given after operation than before, since the increased peristalsis might be troublesome during the work. Dr. Craig, in a second article, advises that it be given during the operation.

In the most of my cases it has been given at the close of operation.

The measure, I am sure, is one of great value for the prevention of post operative intestinal paresis and of mechanical obstruction due to adhesions.

Talking with a veterinarian recently, I was much interested to learn that physostigmine has for a long time been used in the treatment of bowel obstructions in horses.

Pankow, in a recent paper to which I called Dr. Craig's attention, disputes the claims of Vogel for eserine. To this Craig replies in the following personal letter, part of which, by his permission, I will read.

"His (Pankow's) conclusions are entirely worthless for two principal reasons. First, the foremost, because he used precisely the dosage which came near to discouraging me on the whole affair. Calabar bean, having been so long known as the ordeal bean, has acquired a much undeserved bad reputation. It is emphatically to be classed with extremely poisonous drugs, but no whit more so than morphine, strychnine or pilocarpine and others commonly in daily use. Furthermore, the more deadly properties of the entire plant and its preparations are attributable to its other alkaloid, calabarine, which is, of course, eliminated by using only the eserine. Doses of .001 or .00125 correspond roughly to doses of gr. 1-67 or gr. 1-55, either of which dose, while occasionally perfectly satisfactory, is, on the whole, so exactly on the line at which activity begins as to be wholly unreliable. Dr. John C. Reeve, whom of course you know well, writes me that he has used eserine hypodermically frequently in doses of gr. 1-12 with no untoward effects. Such doses, however, I cannot approve for the *prevention* of paresis, because they *may be dangerous* and are certainly unnecessary. They may be needed, as Dr. Reeve has employed them, to overcome a well-established paresis.

"Had Pankow employed doses equivalent to gr. 1-30 or even gr. 1-40 he would have been able to draw very different conclusions, and even as it is, I do not feel convinced that his work, as

reported, fully justifies his present conclusions. No better proof of this can be adduced than his own lack of consistency, constituting the second cause of the worthlessness of his conclusions. We fear paresis only when peritoneal sepsis follows coliotomy or when the paresis is induced by exposure or manipulation of the peritoneum and intestines themselves, and therefore why, in the name of common sense, should Pankow fear intestinal paresis after the Alexander-Adams operation, at least as it is performed in our country; and yet his results were not materially different in that series from the others.

"Now, if I may say just one word as to the time for its administration: I think—in fact I know from experience—that fear of a too early peristalsis is justifiable, and from a very considerable experience I am convinced that it should be administered after the abdomen is opened and not until we are certain that prompt, within fifteen to thirty minutes, resumption of *active* peristalsis will be entirely compatible with the best interests of the patient."

PAPER: SHALL THE APPENDIX BE REMOVED WHEN THE ABDOMEN IS OPENED FOR OTHER REASONS?

BY DR. O. A. GORDON.

#### *Discussion.*

Dr. W. B. CHASE: I heartily approve of the deductions of the writer of the paper. There is one other question which I think should be taken into account in this matter, and it is a little outside the scope of the paper.

It seems to be necessary that the surgeon should take some precaution to guard himself against the possibilities of the question being raised as to whether he exceeded his authority in doing operations in the pelvic or peritoneal cavity not contemplated in the original operation. For instance, if you have occasion to do a hysterectomy to remove diseased ovaries and tubes, and you have told your patient your diagnosis, and you find other things and remove them, you may be called sharply to account; you may do something not contemplated in the original operation. I think the surgeon who holds to the theory that he should remove the appendix on sight will do well to put himself in a position before the patient, that he had a right to do that thing, and, therefore, he should get the consent of his patient to do what, in his judgment, is best.

I think the conclusions of Morris of New York are correct. There can be no question, however

simple the operation, that it may and does add to the difficulty of the operation, and it may be difficult to say just how much influence it may have had in bringing about results that are not altogether satisfactory. The time element is important, and if we see an apparently normal appendix, I think it should be let alone.

Dr. C. JEWETT: I have the greatest respect for Dr. Gordon's judicial attitude on this question, but my practice is the opposite of his. First, one point in the discussion:

Dr. Chase raises an ethical or medico-legal question. Every operator, I believe, should insist on the right to be guided by his own judgment after the abdomen is open. He certainly would fall short of his duty if he found the appendix diseased and did not remove it, for the reason that he had not consulted the patient about it.

Dr. Gordon says the disease occurs more frequently in men than in women. Dr. Murphy's statistics of 2,000 cases do not bear out this contention. It is not much more frequent in men than in women in his work. Baldy, the author, says he has never known appendicitis to develop after abdominal operations in which he had removed other organs and left the appendix. Has Dr. Baldy followed all the cases in which he has operated, and if he has, why should operation prevent appendicitis when the appendix is left? Appendicitis is found in abdomens that have never been opened, and why should it not be more frequent after peritoneal trauma, especially on the right side?

The statistics of the operation go to show that the danger of taking out the appendix in the course of an operation done for another purpose cannot be so very great as has been estimated. The results of Ochsner, Deaver and Murphy with diseased appendices, if I remember correctly, are not over 4 or 5 per cent. of deaths, taking all cases as they come. For operations in a normal peritoneum a death rate of not more than 1 per cent. is conceded by Morris. The deaths which would result from the added work necessary to remove the appendix in an operation already under way should be less than even for abdominal section done for appendectomy even with a healthy appendix.

The question is answered forcibly by two articles published by Dr. Reuben Peterson of Ann Arbor. He reports 200 gynecologic abdominal sections in which he removed the appendix. His object was to determine in which proportion of cases the appendix is diseased. In these 200 cases nearly 50 per cent. were diseased, and of these



counted as healthy some showed atrophy of muscle and hyperplasia of the lymph-adenoid tissue. The examinations were made by Dr. Warthin, Professor of Pathology in Ann Arbor, and he surely could not be suspected of drawing conclusions from forceps, bruises or other operative injuries. As Peterson says, you cannot tell by the macroscopic appearance of the appendix whether it is diseased or not.

In a patient in good condition the risk of the five minutes extra work is practically nil, and is offset many times by the added peace of mind that it brings to the patient in after years. Five minutes is ample with an apparently healthy appendix, and when it is adherent and more time is required, more risk is justified.

Recently I removed the appendix in case of a woman who was in perfect health, but who feared to go into the mountains for the summer lest she be attacked with appendicitis where she could not be properly taken care of. The preceding summer she had spent in bed with severe appendicitis, in the country.

Dr. G. MACNAUGHTON: I agree with Dr. Jewett in his conclusion about the removal of the appendix for these reasons: Until the physiologist can show us the appendix has a function, which they seem to have a great deal of difficulty in proving, and the pathologist can assure us we can make a diagnosis of the diseased appendix from its appearances, I should continue to remove every one that I touched in doing an abdominal operation for other reasons.

I have not had anything like the large experience of Baldy, but on several occasions I have had to do a secondary operation before this plan was instituted. We all have had experiences in operating on cases where there seemed to be positive signs of appendicitis, yet when that organ was brought into view we were surprised at the little change in the gross appearances of it, and we had concluded we had made a mistake. However, removing it, the symptoms have been removed. I think every one will concede cases of that kind. If you can prevent a second abdominal operation, it is always best to do it, because an additional incision in the abdominal wall very decidedly weakens it.

I believe, of course, if your patient is in bad condition, if you find that you have to conserve the time—fifteen minutes; I cannot remove it in five minutes—sometimes it requires quite a little while to find it. The more trouble I have to find it the more likely I am to conclude it is normal. A gross inflammatory condition is easily found.

Where there is less disease there is more difficulty in finding it. That is my experience. I believe, anyway, the appendix should be inspected.

I had an experience a few years ago in operating for ectopic. I found the ectopic was all right, and it occurred to me at that time to examine the appendix, and I found that woman had an acute appendicitis. It was the symptoms of acute appendicitis which determined the operation. At the time of operation the ectopic was certainly unruptured, so that it was in a safe condition, but the symptoms which determined that operation were caused by the appendicitis. I believe in taking it out every time, if we do not injure the patient by occupying fifteen minutes longer.

Dr. W. MADDREN: I have adopted the rule of removing the appendix when exposed, and it does not increase the jeopardy of the operation. We may beg the question, according to Dr. Gordon's ground, but the pathologist tells us that more than 40% of appendices in post-mortem examination show evidences of disease. A great many show evidence of previous disease by adhesions and conditions of that kind. If there is so large a percentage of appendices that have undergone inflammatory and other diseased conditions, it is pretty hard for us to tell from ordinary inspection. There are circumstances when you can remove an appendix in perhaps not over five minutes. You are operating, we will say, for hernia, and your appendix comes in sight. If it is normal, you can remove it in five minutes.

There is another point: if it is normal you should not have any adhesions afterward. Simply amputating it, if you do your work properly there is nothing left to form adhesions. Of course, you might get a little septic matter from the appendix and make trouble that way. That holds to a certain extent, but you should not have it if you take proper precautions. If the operation is done under proper conditions we should not have a mortality of 1%.

I will continue to remove appendices when brought into view, and I consider it does not put the patient in additional jeopardy.

The point Dr. Chase has made, it seems, is not a good one. I do not think we have any right to open the abdomen and operate on a restricted diagnosis. We should decline to do an operation unless we are permitted to exercise our best judgment, and I never operate in private practice unless I have the privilege of doing what I think is necessary. That is the way I would like to be treated myself.

Another point: the difficulty of finding the appendix has been spoken of. A perfectly normal appendix with a general distribution should be easily found. My experience has been if it is hard to find it is more certain to be diseased. It is probably placed behind the cæcum, and is more certainly diseased, and if you have to hunt for it, that is more reason, in my estimation, to remove it. Dr. Gordon's remark that the search for it may produce sepsis; if you are going to search for it to see if it is healthy, you have done as much damage as if you removed it properly.

Dr. J. C. MACEVITT: About a year ago a discussion of this kind was participated in, and I took the view opposing the removal of all normal appendices during other operative procedures where the abdominal cavity was opened. I am willing to be converted. The statistics of Murphy and Peterson, the advocacy of it by Drs. Jewett and McNaughton cause me to waver somewhat. There can be no cast iron rule, in my opinion. I am not ready to assent to the removal of all appendices, but I have this to say, that in the removal of the uterus and adnexa we leave a cause there for producing appendicitis. This was demonstrated to me by a case of very recent occurrence.

Sixteen months ago I operated on a woman for a torn cervix and perineum, and while under the anesthetic I made a vaginal examination, and found a cystic ovary about the size of a walnut. Whether I did wise in telling the woman of the existence of this ovary or not after operation is a question. In a few months she returned, saying she had marked pain on the side of the diseased ovary. It was so persistent that she requested an operation for its relief. I removed the ovary on the right side, and finding the one on the left cystic, simply removed the cystic portion. Three months after the removal of the ovary the woman became pregnant and was delivered at term. Three weeks after the delivery I was sent for and found a tumor in the right iliac region. She had a temperature of 102.5° and complained of pain, but not excessive in character. From the history, as well as I could ascertain, she had fever from the first day after delivery until the time I saw her.

I found this tumor in the iliac region, and supposed from the history of the case that it was a septic infection. Believing I would secure pus, I aspirated through the cul-de-sac without being able to find pus. I opened the abdomen and found a mass of exudative material. I believed at first buried in this I would find a pus tube or

localized pus cavity, but I found instead that it was due to an appendicitis. The appendix was attached to the broad ligament and this inflammatory mass surrounded it. It is a question in my mind whether this appendicitis (it was of a catarrhal character) was due to an appendicitis *per se*, or whether it was due to an appendix becoming attached to the broad ligament, and this inflammatory material by pressure producing the appendicitis. This is one case that would undoubtedly show the necessity of removing the appendix. The appendix, upon the original operation, was absolutely normal.

Another point is this: when we fail to remove the appendix of a patient after operation on the pelvic organs, she will often return complaining of pain on the right side. It is a question sometimes whether this is due to an appendicitis or inflammatory adhesions producing pain. That would be another argument in favor of removing the normal appendix. Statistics vary much, as instanced by the quotations of Drs. Gordon and Jewett, and can be made to adapt themselves to almost any statement.

Dr. S. J. McNAMARA: I believe the peace of mind, health and happiness of any individual is enhanced by removing the appendix. I believe, especially in the female, where appendicitis is complicated with pregnancy or similar conditions, it is a disease which we must always fear.

Dr. W. J. CORCORAN: I would like to add one word in commendation of Dr. Gordon's paper. It agrees with my belief that we should never kick a sleeping dog. The appendix is a good article to leave alone, and if we applied a little bit of logic we would come out just about right. There is no one of us who would not be glad if he had no appendix, but we would not like to lie down and have it taken out. When we have an operation opening the abdomen, and there is some reason for looking after the appendix, some reason for investigating it, well and good, and if after you find you think it is diseased take it out. Suppose you have an ordinary fibroid and a cystic ovary on the other side, why do you go hunting after the appendix at all?

As far as statistics are concerned, I do not think they show anything at all, until you show statistics to prove that the people who have been operated on are more liable to appendicitis than those who have not.

The question of diagnosis is uncertain, and when we go into the abdominal cavity for a presumably enlarged tube, painful ovary or some reason rather indefinite, and cannot find that

our original diagnosis has been confirmed, then I would investigate the appendix. My opinion is, if you have to investigate the appendix, take it out, but never kick a sleeping dog.

Dr. O. A. GORDON: I desire to thank the members for the liberal discussion of the paper. Although I have the greatest possible respect for the opinions of those who have differed from me, all that has been said in favor of the removal of the normal appendix has not changed my views.

Doctor Jewett tells us of 200 apparently healthy appendices that were removed and examined microscopically, 50% of which were found diseased. It certainly seems strange that with so large a per cent. of diseased appendices, only about 2% of the population ever have appendicitis.

The statement by Dr. Jewett that appendicitis is certainly more likely to occur in the case where an operation has been done on the peritoneum is not in accord with observations of other operators of large experience.

One quotes from several thousand abdominal sections for other reasons, and says he has "seen but two cases that were afterwards affected with appendicitis." And still another (Dr. Baldy) reports 100 abdominal operations with no future trouble so far as the appendix was concerned.

Doctor Jewett also says: "If there is a chance that the patient may have appendicitis, after operation, and if it can be taken out in five minutes, and if there would be no material risk, he can see no good reason why the appendix should be removed." I think any operator will agree with him, that under such conditions, the additional operation should be done. But I claim that the chances that the patient will have appendicitis are very few. That, in many cases, the operation can not be done in five minutes and that there is quite a risk. Consequently, I can see no good reason why the healthy appendix should be removed.

Doctor McNaughton says he finds considerable difficulty, at times, in finding the appendix.

If there is considerably difficulty in finding it, and he has found conditions elsewhere which justify the operation, I claim that he should not continue his search, as clean structures might become infected.

Where the appendix is involved secondary to inflammatory disease of the pelvic organs, it is in most cases due to contact adhesions, and in such cases there can not be much difficulty in finding it.

Dr. MacEvitt cites one case. One case does not

go very far in proving anything. Of course, that patient was just as liable to have appendicitis as one never operated.

## PROGRESS IN OPHTHALMOLOGY.

BY JAMES W. INGALLS, M.D.

Relation Between Ocular and Dental Diseases.—Reber (*Ophthalmology*, Oct., 1904) in a highly instructive article considers the relation between disease of the eye and diseases of the teeth. In one class of cases the disturbances appear to be wholly functional. Impairment of accommodation is frequently noticed. Schmidt-Rimpler is quoted as having found in 92 cases suffering from toothache, that 73 of these had weakness of the power of accommodation.

Traumatic hysteria, following extraction of teeth, is not at all rare. Associated with this condition, Borel has seen cases of asthenopia, paralysis of the extra-ocular muscles, reflex amaurosis, monocular diplopia, micropsia, spasm and paralysis of accommodation.

Evidence seems to be conclusive that glaucoma is sometimes caused by "a continued irritation of a dental branch of the trigeminus." (Mooren.) "Alveolar inflammations are not infrequently seen to involve by extension the autrum of Highmore, the periosteum of the lower orbital margin and the orbit itself."

In conclusion Reber submitted the following:

1. That the ophthalmologist should seek the assistance of the dental surgeon in all cases of unexplainable paralysis of the accommodation; dilatation of the pupil; palsy or spasm of the external ocular muscles; rebellious corneal ulcers; phlyctenular disease; lachrymal fistula, orbital cellulitis; abscess; caries and periostitis and in threatening glaucoma without apparent cause.

2. That the dental surgeon should refer to the ophthalmic surgeon patients that develop any ocular symptoms whatever; and in particular those exhibiting altered pupils or accommodation, lowered vision, painful eyeballs and swollen lids or orbital margins with prominence of the eyeball. The latter is particularly important, as pus in the orbit will almost invariably do some damage.

3. From two to ten days is the time wherein infection from an alveolar wound is most likely to take place.

4. The so-called reflex affections (traumatic hysteria) may occur at almost any time within six months after an extraction. Impressionable

females are the likeliest subjects for the development of this puzzling phenomenon.

5. Eye strain in certain diseases of the eye may give rise to neuralgias reflected along the dental branches of the fifth nerve, and thus make it appear as though the teeth were the primary offending cause.

6. The small and the first and the great molar most frequently provoke the purulent processes that later involve the antrum of Highmore, the lachrymal sac and even the orbit.

7. As Garreston has well said: "A diseased tooth may express itself in almost any part of the body, while, on the other hand, disease in any part of the body may express itself in discomfort through a tooth."

Hysterical Amblyopia.—Fish (*Ophthalmology*, Oct., 1904) gives the histories of a number of cases which would evidently be classed as hysteria. However, upon closer examination, it was found, in each case, that the cause of the trouble was located in one of the frontal sinuses. After appropriate treatment the symptoms disappeared.

Fish regards frontal sinusitis, subacute or latent, as a much more prevalent affection than is usually supposed.

"These patients suffer from asthenopia, owing to a reduced range of accommodation or a diminished power to maintain prolonged accommodation, and, furthermore, they are subject to frequent attacks or aggravations of these distressing symptoms when the sluggish pupil and ciliary muscle cause them great discomfort."

Glaucoma Following Cataract Extraction.—Dupuy-Dutemps (*Annales D'Oculistique*, July, 1904) regards the etiology of this form of glaucoma as somewhat obscure in many cases. However, two factors may be regarded as important.

1. The complete adhesions between the iris and the capsule. This condition more frequently follows simple extraction.

2. Incarceration of the iris or capsule in the cornea.

#### PROGRESS IN SURGERY.

BY GEORGE R. FOWLER, M.D.

*Surgery of the Gall-bladder.*—W. Severin (*Zentralblatt fur Chirurgie*, XXXIII., 969-970). Cholecystectomy has recently been advocated by most surgeons because it is feared that new calculi will form in the diseased gall-bladder. A short time ago the author examined post-mortem the gall-bladder of a woman, aged fifty-four,

from which Prof. v. Mikulicz had removed five years previously eight calculi; the gall-bladder was found empty and but little altered. Because of this and similar cases, he advises against cholecystectomy when the gall-bladder is not greatly altered, and particularly when the gall-bladder is firmly attached to the surrounding tissues. In the case of a woman, aged forty-four, much enfeebled, in whom the gall-bladder was very adherent to the colon, duodenum, and neighboring organs, and could not be isolated, cholecystotomy was performed and a calculus removed. The gall bladder was then carefully cleansed with the sharp spoon and the wound sutured. Recovery was uneventful. The case is of interest because the patient was in such a miserable condition before operation, suffering much pain and being unable to take nourishment, that the operation was twice postponed. The heart action was so weak that the pulse was hardly perceptible at the wrist. Physiologic solution of sodium chlorid was repeatedly injected and her condition gradually improved.

In cases in which the gall-bladder is much altered, the author advised cholecystopexy with subsequent cholecystotomy. A woman, aged thirty-two, had suffered some years from gall-bladder colic. On several occasions she entered the hospital and benefited by her stay there, and once, when the gall-bladder was much dilated, the tumor suddenly disappeared and marked improvement followed, the contents of the gall-bladder evidently having escaped into the bowel. When the abdomen was opened (March 20, 1904), many strong adhesions to the neighboring organs were found, the gall-bladder being particularly firmly attached to the colon. The serous membrane of the gall-bladder and of the colon tore easily; at one place bile containing whitish coagulation was seen. The wall of the gall-bladder was whitish and much altered. Being fearful that he would tear open the bowel and infect the abdominal cavity, the author sutured the wall of the gall-bladder to the edges of the peritoneal opening and introduced a strip of gauze into the abdominal cavity to the point of rupture. Suture. Tamponade of wound. Aseptic dressing. Favorable course. On the fourth day the strip of gauze was removed from the abdominal cavity. On the sixth day cholecystotomy was performed, sixteen calculi being removed. The gall-bladder was tamponed anew at each change of dressing until complete obliteration occurred. Recovery in five weeks with complete obliteration of the gall-bladder and no hernial protrusion.

The latter advantage was gained by the employment of Nikonow's incision of the abdominal walls, as follows: A longitudinal incision over the right rectus; opening of anterior wall of sheath of tendon; displacement of muscle toward median line; opening of posterior wall of sheath. In closing the abdominal wound, the fascia was closed in layers, with the muscle occupying again its old plane. By means of such an incision and by suturing the gall-bladder to the edge of the peritoneal incision, an oblique canal, following the course of the gall-bladder with extensive adhesion of the abdominal wall, is obtained, and hernial protusion thus avoided. Examination of the calculi by Dr. Danilow showed the following: The nuclei consisted of a large number of blood pigments, the median layer of calcium phosphate and cholesterin, the external layer exclusively of cholesterin and traces of fat. This leads to the conclusion that there is some probability that contusions causing an effusion of blood induce the formation of biliary calculi.

*Pseudo-appendicitis (nervosa).*—F. Franke (*Arch. intern. de chir.*, Vol. 1, fas. 2 and 4) points out the fact that in their contention as to the proper treatment of appendicitis surgeons lose sight of one important factor, *i.e.*, the making of a correct diagnosis. The author eliminates those cases in which other affections of the organ are present. The latter, which are responsible for many erroneous diagnoses, he does not consider hysterical in nature, but regards them as neuralgias or neuritides of the ilio-hypogastric or neighboring nerves, following an acute or "chronic" influenza, and has called attention to them in a former paper. Referring to the "family" tendency of influenzal affections, he cites a number of instances in which pseudo-appendicitis occurred in different members of the same family. The diagnosis in these cases was based upon some characteristic results of influenza ("strip-like" redding of the anterior palatal arches, etc.), sensitiveness to pressure of the attacked nerve, and upon the results of special treatment. In some cases section from the living subject excluded a diagnosis of true appendicitis. According to the author, "pseudo-appendicitis nervosa" is easily differentiated from the reflex hyperesthesias of the abdominal skin which have already been described as occasionally being the cause of diagnostic errors. In conclusion, Franke emphasizes the theoretical as well as the practical importance of properly diagnosing these cases.

## PROGRESS IN GYNECOLOGY.

BY CHARLES JEWETT, M.D.

**Adenomyoma of the Uterus.**—Cameron and Taylor (*Jour. of Obs. and Gyn. of the British Empire*, March, 1904) report a case of uterine adenomyoma. The woman, at 49, had been the subject of a gradually increasing menorrhagia for two or three years. For five weeks hemorrhage had been continuous and profuse. The clinical diagnosis was myoma and the uterus and appendages were removed. The macroscopic appearance of the tumor after operation was that of an interstitial myoma. On further examination no capsule was found. The anterior wall of the uterus was one and one-fourth of an inch in thickness and on section presented three layers. The inner layer was thin and consisted of spongy, ragged endometrium. The middle layer was made up of spongy, coarsely striated tissue, the striae running in all directions; it showed nothing of the usually walled appearance of fibromyoma. The outer layer was about one-half inch in thickness and its structure showed only apparently normal uterine tissue. A similar condition was found in the posterior uterine wall. At the border of the abnormal growth a small encapsulated tumor, resembling a fibromyoma, was seen. The greater portion of the new growth was made up of plain, muscular fibres in bundles, interspersed among which were gland tubules embedded in a mass of cystogenic, lymphadenoid, connective tissue. Some of the cells of the acini of the glands presented double nuclei, resembling the condition described by Bland Sutton as characteristic of the tubular variety of uterine cancer.

Speaking of the pathogenesis of these tumors, the authors allude to the theory of the embryological origin of adenomyomata from the Wolffian ducts, to the teaching that these growths have their origin in the endometrium and to the microbic theory. They venture the suggestion that adenomyomata may originate from proliferation of infoldings of the perimetrium.

Von Ruklinghausen divides these tumors into four groups: the hard, the soft, the telagiectatic and the cystic adenomyomata. The consistence differs according to the preponderance of muscular and gland tissue. They may be found in the broad and also in the round ligaments.

The prognosis is not so good as in simple myomata and there is a tendency to carcinomatous degeneration. Freund's observation to the

effect that the subjects of adenomyoma are women of feeble development in whom the menses have appeared late, who have suffered from anemia, dysmenorrhea, pelvic peritonitis, vesical and rectal disturbances, who are for the most part sterile and whose genital system is defective, were not fully borne out in the case reported.

This patient had borne several children, had never had pelvic peritonitis, had no vesical or rectal troubles. The operation was followed by complete recovery and improved health and strength.

**Prognosis and Treatment of Papillomatous Tumors of the Ovary.**—Pozi (*Rev. de Gyn. et de Chirug.*, May and June, 1904) says papillomatous tumors of the ovary are not all to be classed as malignant. A goodly proportion either do not recur after operation or should they recur do so very late and with no resulting systemic infection. It should be understood that the mere implantation of papillomatous growths upon the adjacent peritoneum is nothing more than may occur in common warts and is not necessary evidence of malignancy. In the early stages of papillomatous growths it is impossible to distinguish the malignant from the benign by clinical appearances. A histologic examination alone can decide and this must include sections from all parts of the tumor, since, for a time, the malignant character of the new growth may be limited to small portions of the tumor.

In the absence of cachexia or metastases, the innocent character of the growth may be assumed. Even should remote papillary deposits escape detection at operation and be left, they usually disappear, or when they continue to grow, may be removed later with satisfactory results.

The opposite ovary should be removed when the woman is near the menopause. In younger women it is better to take the chance of a second operation.

When both ovaries are involved, hysterectomy should be performed.

In the presence of ascites, improvement usually follows even an explorative operation. In such cases the author thinks the peritoneum should be drained after removal of the growths. When the papillary growth is wholly contained within the cyst and there is no ascites, drainage is not called for.

**Unusual Death in New-born Child.**—Zaborsky (*Zentralbl. f. Gyn.* No. 24) reports the following case: An eight-pound child was delivered by forceps in a condition of asphyxia. It was resuscitated, but died abruptly some minutes later. At autopsy the cause of death was found to be a laceration of the umbilical vein and sub-

peritoneal hemorrhage. As the vessel had not been exposed to injury during the birth the only explanation of the laceration that could be offered was too tight a ligation of the cord. It was suggested that in certain subjects the vein is very friable. If the funis is tied too firmly the vessels may be cut through and retraction with hemorrhage may ensue. This danger usually may be obviated by the use of tape or of a thick, soft, rather than a thin, sharp ligature.

Urotropin, Methylene Citric Acid, and Urotropin Methylene Citrate, or Helmitol.—Nicolaier (*Deutsch. Archiv. f. Klin. Med.*, vol. 81, 1904), who introduced urotropin nine years ago, says that his original claims for the drug have been fully confirmed in more than 200 papers of different writers on the subject. It is harmless in doses of  $7\frac{1}{2}$  grains in eight ounces of water given three times daily, is effective for the inhibition of bacterial growth and is to some extent a uric acid solvent. It is useful therefore not only in infection of the urinary tract, except tuberculosis, but it has some value in gout. It acts equally well whether the urine is acid, alkaline or neutral.

As a prophylactic before and after instrumentation it should be given in doses up to 60 grains daily.

Occasionally the drug fails even in non-tubercular infections.

Methylene citric acid in the author's experience is decidedly inferior to urotropin for the prevention of bacterial growth, and its use is attended with injurious effects. The same is true of citarin. Helmitol is dependent for its therapeutic efficacy upon its urotropin content. By reason of its containing methylene citric acid it is open to the same objections as the latter. Meteorism, diarrhea, vesical irritation, albuminuria and other unpleasant effects have been reported. Helmitol is less economical than urotropin, since large doses must be employed.

**Conviction of Dishonest Milk Dealers.**—The Board of Health on Dec. 15 temporarily revoked the license of the "Metropolitan," one of the largest milk concerns in Manhattan. The Board of Health found that the milk furnished to this company by a certain Blooming Grove Dairy (delectably named) was stored in buildings and grounds which were in an unsanitary state. Eight milk dealers in Brooklyn were fined from \$10 to \$50 each on Dec. 19 for selling adulterated milk. Six dealers in Jamaica, L. I., were fined for the same offense on Dec. 27. Let us drink (milk, if preferred) to the health of infancy, on January 1, 1905!

# Brooklyn Medical Journal.

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## THE OPTOMETRY BILL.

The refracting opticians will again present the Optometry Bill to the next Legislature and urge its passage by that body, and to that end they are sending broadcast over the State circulars, booklets and petitions to legislators requesting their support of the measure. They are also sending out petitions to physicians of the State requesting their signatures which they will submit to the Senate Committee on Public Health as evidence that the majority of the medical profession is for the bill.

In fact, they falsely claim that 75% of the general practitioners of the State are for it. While we know that the majority of the medical profession never could conscientiously support a pernicious measure like the Optometry Bill, yet the petition, which lies before us, is so insidious, guileless and misleading that the busy practitioner, through impulse, might be led to sign it without giving the matter due consideration. Every ophthalmologist and competent general practitioner recognizes that many forms of visual defect are dependent upon lesions in the eye itself, or, as is frequently the case, upon lesions far removed from the eye, and which in no way concern refractive error or the application of glasses for its correction; and no process of legislation can ever make an optician, or so-called optician, capable of recognizing these diseases or otherwise able to properly and safely do this work.

Eliminating the question of *eye-diseases* and

their influence upon defective vision, we know of no chartered or otherwise legalized institution in this country whose aim and purpose is to instruct opticians or other laymen who pose before the public as opticians or refracting opticians. Under a seemingly laudable guise of self-improvement and intellectual betterment, they appeal to the legislature for relief from this confessed condition of incompetency through, and by means of, the Optometry Bill, which provides that they be required to pass a Board of Examiners composed of *themselves*, men whose source of educational qualification, in so far as they pertain to optics, are *nil*, and whose standards of excellence are such as any body of men would have whose sole means of existence depended upon the selling of glasses.

And, again, this bill further provides that the certificate issued by *their* Board of Examiners shall be signed by the Board of Regents of the State of New York, thereby placing them on the same plane of excellency as the physician, dentist or veterinary surgeon who have to attend a recognized college for a period of four years before they are permitted to practice their art. To say that such certificates as are provided for in this bill would not be used to mislead the public, would challenge the intelligence of any fair-minded medical man; and it seems to us that to legalize a class of men, who are without schools or other visible means of acquiring scientific instruction in optics, to say nothing of the medical aspect of the question, would be a mistake and a pernicious piece of legislation.

## MEDICAL NEWS.

EDITED BY CLARENCE REGINALD HYDE, M.D.

*It is earnestly hoped that all members of the profession possessing news concerning themselves or their friends, which would interest others, will communicate the same to the News Editor before the 9th of each month. Items for this department should be sent promptly to Clarence Reginald Hyde, M.D., 126 Joralemon Street.*

Dr. Rosalie Bell has removed to 398 Fourth Street.

Dr. George L. Buist has removed to 3 Hancock Street.

Dr. J. M. Clayland has removed to 152 Hewes Street.



Dr. Edward C. Sullivan has removed to Kings Highway and East 18th Street.

Dr. John C. Lester has opened a branch office in Manhattan at 616 Madison Avenue, but still retains his morning hours at his Brooklyn address as before.

Dr. William F. Campbell is chairman of the fencing committee of the Crescent Athletic Club.

On Thursday, December 15th, at Brookline, Mass., Dr. Frederick C. Paffard, of 238 Clinton Street, wedded Miss Helen Crocker Adams, daughter of Mr. and Mrs. James Adams.

There died recently in the German Hospital, Manhattan, a patient, who had spent thirty-three years in an invalid chair as a paralytic. He drew from the Odd Fellows sick benefits amounting to \$10,000.

At the annual meeting of the Long Island Medical Society, the following officers were elected for 1905: President, William A. Tones; Vice-President, Edward E. Cornwall; Secretary, J. E. Jennings; Treasurer, W. Carl Schoenijahn. Stephen H. Lutz was elected Trustee in place of Sylvester J. McNamara (term expired), and Nathan T. Beers, Editor of the Society Transactions. It was voted to hold the annual dinner on the first Tuesday in February.

Dr. Henry A. Alderton, was elected a Fellow of the Long Island Medical Society at its annual meeting by a unanimous vote. Dr. Alderton is the first member of the Society to receive a fellowship, which is awarded to that member of the Society who shall, at its annual meeting, present a paper showing original research in any special line of medicine or surgery. Dr. Alderton's essay was "Points in Connection with the Facial Nerve." The honor came as a complete surprise to the doctor, who was heartily applauded by his fellow members.

Dr. Joseph H. Raymond, Secretary of the Faculty of the Long Island College Hospital, reports that there are at present four hundred and four matriculants in all the four classes, being the largest number in the history of that institution. There are ninety-five in the graduating class. This is the largest senior class in point of numbers ever enrolled at the Long Island.

Acting on the request of Dr. Brennan, president of the trustees of Bellevue and Allied Hospitals, the Aldermen recently passed an emergency resolution appropriating \$15,000 for the erection of temporary pavilions as adjuncts to Bellevue Hospital. Dr. Brennan is quoted as saying that all the city hospitals in Manhattan were crowded beyond their proper capacities, and

that, in some, patients were lying on mattresses placed on the floors.

Dr. Clarence R. Hyde, of 126 Joralemon Street, has recently been elected a member of the New York Obstetrical Society.

Dr. Ira Ayer, formerly of Brooklyn and lately Captain and Assistant Surgeon of U. S. Volunteers, has returned from the Philippines and will spend a short time in this city.

Medals are cheap in England. The nurse who attended the Duke of Connaught, when he had some skin scraped off in an automobile accident recently, has received the Victorian medal from King Edward.

It has been found that 70 to 80 per cent. of the consumptive patients at one of the Swiss sanatoriums retain for several years the extra weight gained there during several months treatment.

Plans are being prepared by a well-known architect for a large addition to the Jewish Hospital, corner of Classon and St. Marks Avenues, to cost between \$125,000 and \$130,000. The hospital has now \$80,000 in cash and is endeavoring to raise \$50,000 more to complete the building. A huge charity fair will be held in the near future, and it is hoped a sufficient sum will be raised to meet all expenses, so that the new building can be completed by November, 1905.

The death is announced of Frances Besson Tucker, wife of Dr. Harrison A. Tucker, Jr., of 393 Clinton Street, in the thirty-eighth year of her age. Mrs. Tucker died on December 14th, of Potts disease, from which she had suffered for more than a year. The JOURNAL extends its sincere sympathy to Dr. Tucker.

Thirty hospitals all over the country will combine their forces to prosecute the investigation as to the treatment of pneumonia, which is alarmingly on the increase. Nearly twenty per cent. of deaths in New York City alone are directly traceable to this disease. The increase this year over last is sixteen per cent., and the deaths due to it in the first six months of the present year numbered 8,360. Laboratory work will be carried on in New York, Philadelphia, Boston and Saranac. Conclusions will be drawn from 20,000 cases and inoculations of mice and rabbits will be made to determine the action of the pneumococcus on healthy organisms. The air and dust of public places will be analyzed, as will also the sweepings from shops, theatres, offices, schools, asylums, jails, churches, factories and homes. Nearly a hundred questions have been formulated for answer by patients, relating to their habits and mode of life, whether they use liquor or tobacco,

ride in street cars, wear thick or thin clothing, are addicted to colds, have been exposed to foul air, gases or other deleterious agencies, are subject to fatigue, eat heartily or lightly, work indoors or in the open, and whether or not they come of healthy stock or inherit tendencies to consumption. Tests will be made of healthy individuals for purposes of comparison, and the throats of people working in shops and other crowded places will be examined. The relative immunity of Southern cities from the scourge will be a subject of special inquiry. (Ext.)

The Woman's Hospital Society of New York has elected the following officers: President, P. F. Chambers; vice-president, Dougal Bissell; editor, Herman Grad; secretary and treasurer, Thompson Sweeny. The members of the Executive Committee are: Le Roy Broun, Reginald M. Rawls and Sumner Shailer.

At the Semi-Annual Meeting of the Queens-Nassau Medical Society, held at the Surrogate's Court Room, Jamaica, December 20, 1904, the following papers were presented: "Prophylaxis in Tuberculosis," Samuel Hendrickson, M.D.; "A Few Thoughts on the Relation of the Practice of Medicine to Business Methods," A. D. Jacques, M.D. Brief discussion of the following: (a) Transient Motor-aphasia, (b) The Reduction of the Chlorides in Nephritis, (c) Measurement of Blood Pressure, (d) The Importance of Gebhardt's Test in the Management of Diabetes, (e) Hutchinson's Contribution and the Meaning of Uric Acid and the Urates, with Therapeutic Deductions, Henry A. Fairbairn, M.D.

Dr. O. A. Gordon, of 71 Halsey Street, has been appointed attending surgeon to St. Mary's Hospital in place of Dr. Walter C. Wood, resigned.

Dr. Nelson L. North, of 627 Bedford Avenue, and father of Dr. Nelson L. North, of Hooper Street, died Nov. 22d after a short illness. Dr. North was graduated from P. and S. in 1854, and had been a member of the Kings County Medical Society since 1859.

The death of Dr. William Gilfillan, of 98 Remsen Street, on December 18th, removed one of the best known of Heights physicians. He was born in Derry, Ireland, in 1833, and received his degree of medicine from Edinburgh in 1854. After graduation he was house physician of the Royal Infirmary in Edinburgh. He came to this country in 1857, settling in Brooklyn in 1859. Until 1869 he was on the surgical staff of the Long Island College Hospital. Of late years Dr. Gil-

fillan has not practised extensively, and about three years ago practically retired from active practice. A son and daughter survive him.

The Board of Managers of Seney Hospital announce that the conditional \$300,000 has been raised and that it is now assured of the gift of \$125,000 offered by Mr. and Mrs. William Halls. Mr. Halls, who is vice-president of the Hanover National Bank, is also vice-president of the Board of Managers of the Hospital. The work of renovating and completing the building will now be undertaken. The Hospital was opened on Dec. 15, 1887.

Dr. Charles H. North, of Buffalo, who has been assistant physician at the Dannemora State Hospital since its opening in 1900, has been promoted by Superintendent of Prisons Collins to the post of medical superintendent of that institution in place of Dr. R. B. Lamb, who was transferred on Dec. 1 to the Matteawan Hospital. The salary is \$3,600 per annum, and increased yearly up to \$4,500.

## BOOK REVIEWS.

**DISEASES OF THE NERVOUS SYSTEM.** A Text-Book for Students and Practitioners of Medicine. By H. Oppenheim, M.D. Transl. and Edit. by Edward E. Mayer, A.M., M.D. *Second American Edition Revised and Enlarged.* Phil & Lond., J. B. Lippincott Co., 1904. 953 pp., 16 pl. 8vo. Price: Cloth, \$5.00.

This is an elaborate work, and presents especially German teaching in a very useful manner. In view of the multiplicity and variety of its contents, any detailed review is quite out of the question. About the only method of examining such a book is, like the assayer, to make tests here and there.

The first 92 pages give a good summary of General Symptomatology. His kit for sensory examinations is certainly simple,—“a brush, a needle, and a test-tube of hot and one of cold water.” The term muscular sense “had best be dropped,” and its chief substitute “can generally be discarded,”—the latter point a bit surprising. The English rendering is unusually clear. The descriptions are full, and the views of continental authorities on fact and treatment are often included.

The illustrations call for a word. They are fairly numerous and bear amply on the morbid anatomy. But though well chosen, they are evidently re-reproductions that come out in most cases so poorly as to be mere outlines.

It should prove an admirable reference work for practitioners and deserves high commendation, even in this hour of many neurological treatises to choose from.

W. B.

**A TEXT-BOOK OF HUMAN PHYSIOLOGY.** By Albert P. Brubaker, A.M., M.D. Phil., P. Blakiston's Son & Co., 1904. x, 17—699 pp., 2 col. pl. 8vo. Price: Cloth, \$4.00.

“The object in view in the preparation of this volume,” the author tells us, in the preface, “was the selection and presentation of the more important facts of physiology, in a form which it is believed will be helpful to students and to practitioners of medicine,” and that, “such facts have been selected, as will not only elucidate the normal functions of the tissues and

organs of the body, but which will be of assistance in understanding their abnormal manifestations as they present themselves in hospital and private work." In some sense this object has been attained; but, besides the statement of selected physiologic facts and conclusions, the text contains a considerable amount of descriptive anatomy and histology. The book also contains a rather large number of anatomic, histologic, and physiologic illustrations, and in the appendix, of about twenty pages, some of the most frequently used pieces of physiologic apparatus are described. There is but little originality, either in the selection of the matter presented or in the mode of its presentation; the book, as a whole, presenting the appearance rather of a large compend of medical physiology than of a text-book. It will doubtless be more or less "helpful to students and to practitioners of medicine," but rather less so than are many of the more scientific text-books now in use in our medical schools.

JOHN C. CARDWELL.

**LECTURES TO GENERAL PRACTITIONERS ON THE DISEASES OF THE STOMACH AND INTESTINES.** With an Account of their Relations to Other Diseases and of the Most Recent Methods Applicable to the Diagnosis and Treatment of them in General; also "The Gastro-Intestinal Clinic," in which all such Diseases are Separately Considered. By Boardman Reed, M.D., N. Y., E. B. Treat & Co., 1904. 1,021 pp. 8vo. Price: Cloth, \$5.00.

The above volume should fill a long felt want in the libraries of the general practitioner as well as the specialist. It is certainly as clear and concise as any on the subject, and, being written from the experience of one of our own most esteemed countrymen, takes on thereby additional value. The author's idea of doing away with needless instruments is a good one; for in any field of medicine simplicity should be more constantly in mind than it is. I might beg to differ with Dr. Reed in his advocacy of a tube open at the end, and also his recommendation of the employment of an aspirator, which I think is hardly a safe thing in inexperienced hands.

Lecture XV symptomatic guide to diagnosis is invaluable. The summary of precautions on p. 207 is well worth a careful perusal.

Considering the various diet-lists, certainly those of the author are simpler and will yield equally good results with those of our foreign brothers. On the whole this book is, to my mind, one of the best, broadest and most readable of any published.

HARRY WARREN LINCOLN.

**AMERICAN EDITION OF NOTHNAGEL'S PRACTICE: Diseases of the Intestines and Peritoneum.** By Prof. Dr. Hermann Nothnagel. Edited, with Additions, by Humphrey D. Rolleston, M.D., F.R.C.P., Phil., N. Y. & Lond., W. B. Saunders & Co., 1904. 1,032 pp., 20 pl. 8vo. Price: Cloth, \$5.00; Half Morocco, \$6.00.

This work, as a companion to the edition on gastric disorders, by the same author, will always maintain a prominent place in the literature on the subject of gastro-enterology. As in the other book, the "notes" by the editor are of infinite worth. The plates are such as to be credited with difficulty by one not accustomed to the inspection of many such cases. They are surely a more vivid representation than real life usually affords. The part of over one hundred pages devoted to appendicitis is both exhaustive and instructive. The well worn subject of sluggishness of the bowel (constipation) is advantageously handled. Knowledge of the section dealing with diarrhea will aid in clearing up many of those cases, which often appear obscure in etiology, and firmly resist ordinary therapeutics. This volume well merits a place, side by side, with Boas, Hemmeter and others whose writings have been upon the same subjects.

H. W. LINCOLN.

**REFRACTION AND HOW TO REFRACT: Including Sections on Optics, Retinoscopy, the Fitting of Spectacles and Eye-Glasses, Etc.** By James Thorington, A.M., M.D. Third Edition. Phil., P. Blakiston's Son & Co., 1904. xviii, 9—314 pp., 2 pl. 8vo. Price: Cloth, \$1.50.

The appearance of a third edition is accepted as evidence of the popularity of the work under considera-

tion. The essentials of refraction are clearly and accurately stated. Nothing unimportant has been introduced; nothing important has been omitted.

JAMES W. INGALLS.

**THE OPTICAL DICTIONARY: An Optical and Ophthalmological Glossary of English Terms, Symbols and Abbreviations, together with the English Equivalents of some French and German Terms.** Edited by Charles Hyatt-Woolf, F. R. P. S., Phil., P. Blakiston's Son & Co., 1904. 165 pp. 12mo. Price: Cloth, \$1.00.

Optical Dictionary, when revised and corrected, will doubtless prove a convenient book for reference. However, this first edition contains many errors. A few pages taken at random show mistakes as follows: On page 18, "astignometer" is put for astigmometer; "ocular conjuction" for ocular conjunctiva; angapfellahmung, "paralysis of the iris," for paralysis of the ocular muscles. Page 19, "augenhöhlenwinkel, any disease of the eyelids," for angle of the orbit.

JAMES W. INGALLS.

**THE URINE AND CLINICAL CHEMISTRY OF THE GASTRIC CONTENTS, THE COMMON POISONS, AND MILK.** By J. W. Holland, M.D. Seventh Edition, Revised and Enlarged. Phil., P. Blakiston's Son & Co., 1904. 172 i. ob. 24mo. Price: Cloth, \$1.00.

The general plan of this work remains the same as in the last edition. The work is thoroughly practical, the different tests being treated in a simple and explicit manner. Following each page of text is a blank page for notes. The manual is one of the best of its kind and will appeal greatly to the student.

W. SCHROEDER, Jr.

**TOXICOLOGY: A Manual for Students and Practitioners.** By Edwin Welles Dwight, M.D. Phil. & N. Y., Lea Bros. & Co., 1904. 298 pp. 12mo. Price: Cloth, \$1.00. (*The Medical Epitome Series.*)

This is a small book designed to present in brief form important facts in Toxicology, especially for the use of medical students. The first chapter is devoted to the general principles of Toxicology, how poisons act, are administered, and eliminated, evidences and symptoms of poisoning, and post mortem appearances. In the following chapters are individually dealt with, illustrative cases of poisoning following the drug.

W. SCHROEDER, Jr.

**MANUAL OF PHYSIOLOGICAL AND CLINICAL CHEMISTRY.** By Elias H. Bartley, B.S., M.D., Ph.G. Second Edition, Revised and Enlarged. Phil., P. Blakiston's Son & Co., 1904. vi., 13—188 pp. 8vo. Price: Cloth, \$1.00.

This edition is a careful revision of the preceding one, with many new and valuable features added. Following the experiments with carbohydrates, fats, proteids, and examination of artificial foods, will be found a new chapter on the Clinical Examination of the Blood. In this chapter, though briefly stated, the various tests are exact and reliable and can be most easily carried on by the general practitioner. The chapters on the urine have been completely rewritten with much new and valuable matter added, including many new illustrations on the Microscopical Examination of Sediments. There are also chapters on Gastric Contents, Milk and Feces, together with tables on Milk Composition, Weights and Measures, Chemical elements and their symbols, and atomic weights, Volumetric solutions, etc. Altogether it is a work that will appeal greatly to the medical student and practitioner.

W. SCHROEDER, Jr.

**A PRACTICAL TREATISE ON GENITO-URINARY AND VENEREAL DISEASES AND SYPHILIS.** By Robert W. Taylor, A.M., M.D. Third Edition, Thoroughly Revised. N. Y. & Phil., Lea Bros. & Co., 1904. 757 pp., 39 col. pl. 8vo. Price: Cloth, \$5.00.

The previous edition of this valuable work, which has been one of the best books on the subject for many years past, has been augmented and improved by care-

ful revision. Gonorrhea, in all of its phases, has been exhaustively presented, leaving little to be said except in commendation. Although it is regretted that the author's experiences with the newer silver salts have not been more successful. In discussion of the affections of the prostate little new material has been added—in spite of the recent advances in that branch of genito-urinary surgery.

Affections of the bladder, ureter and kidneys receive careful attention. The second division of the book is devoted to the discussion of syphilis in all of its conditions and phases. This portion of the book is deserving of special commendation. The subject has been presented in a clear, concise and systematic manner, the chapters on treatment being especially practical. The work is commended to all seeking reliable information on this branch of surgery. C. S. COCHRANE.

**THE PRACTICAL TREATMENT OF STAMMERING AND STUTTERING:** With Suggestions for Practice and Helpful Exercises. By George Andrew Lewis. And a Treatise on the Cultivation of the Voice, with a Discussion of Principles and Suggestions for Practice. By George B. Hynson, M.A. Detroit, G. A. Lewis, 1902. xi., 13—415 pp. 8vo. Price: Cloth, \$3.50.

The first portion of this book contains an interesting description of the nature and etiology of stammering and stuttering, and the method of treatment devised by the author for their relief.

It is intended evidently for the use of instructors of voice culture and for the guidance of patience suffering from speech defects. The language is simple and clear, and free from scientific terms. However, it is a practical treatise, that embodies the results of many years of experience in dealing with this class of cases, and it contains much information that is of value to physicians. Medical teachers and medical text-books very generally slight this subject, or give it only scant attention; yet it is of some importance and those who suffer from these ailments are handicapped from both a business and social standpoint, quite as much as those having defective sight or hearing.

The author states that stammering is more serious and more difficult of correction than stuttering. The latter is mainly the result of nervousness and lack of confidence. It is evidenced by a faulty method of breathing, speaking with insufficient air in the lungs, and by a repetition of syllables.

Stammering is the result of a more profound mental impression; there is complete loss of confidence in the ability to phonate, no sound is made, and even the accessory organs of speech, the lips, tongue, etc., may fail to respond to the effort. Children frequently inherit traits of disposition that favor the development of stammering and stuttering. It may be the outcome of careless habits of speech in early youth, or parents may fail to correct the faults of pronunciation common to every child when learning to speak, or it may be due to association with those who stammer.

Speech defects are almost never caused by abnormal anatomy. In 1,000 recorded cases of stammering and stuttering, only one resulted from deformity of the organs of speech; 647 of this number stammered and 353 stuttered; 504 stammered under 5 years of age, and 5 commenced the habit when over 20 years of age; 822 were males and 178 were females. The author shows himself to be an optimist by stating that every case of stammering can be cured by proper treatment, in a reasonable time, providing the pupil gives his co-operation.

The second half of the book relates to voice culture. Clear articulation and a pleasant quality of voice tone add greatly to the effectiveness of speech, and to a large degree these can be acquired by control of the muscles of respiration and voice. The article is somewhat vague and rambling in style, and has no medical bearing. The subject possesses more interest for the teacher of elocution than for the physician.

The book may be criticized for its needless repetitions and for its verbosity. It is generously padded by the insertion of over 100 pages of time honored poems, under the caption of "Selections for Practice."

W. F. D.

**A PRACTICAL TREATISE ON DISEASES OF THE SKIN:** For the Use of Students and Practitioners. By James Nevins Hyde, A.M., M.D., and Frank Hugh Montgomery, M. D. *Seventh and Revised Edition.* Phil. & N. Y., Lea Bros. & Co., 1904. Col. front., xix, 17—938 pp., 33 pl. 8vo. Price: Cloth, \$4.50.

A labored review of the above work at this time would seem supererogatory; our former oft-repeated favorable comments in this Journal, on preceding editions, render it unnecessary. Suffice it to say then, that this, the seventh edition of this most excellent treatise on Dermatology, only justifies and amplifies our old opinion. Edited, as it is, up to date, and containing for reference as nearly as may be all the novelties, improvements, etc., in scientific research, and Therapeutic methods (with particular reference to Phototherapy and Bacteriological investigation), we consider it one of the first, certainly, possibly the best extant, work on the subjects it treats of. If there be other Dermatological Treatises that contain as much information on the subjects quoted above, we are unacquainted with them. As to other merits it holds its own; all the individual subjects have been well revised, with due consideration, and where needed with amendment in accordance with the views of to-day. In short, we commend this edition of the volume to instructor, practitioner and student. S. S.

**A TREATISE ON OBSTETRICS.** For Students and Practitioners. By Edward P. Davis, A.M., M.D. Second Edition. Phil. & N. Y., Lea Bros. & Co., 1904. 8vo. 809 pp., 39 pl. Price: Cloth, \$5.00. Leather, \$6.00.

Dr. Davis' obstetrics, the work of an acknowledged master in its special field, is a notable addition to the many recently published text-books on the subject. While nominally it is a second edition of his Treatise issued in 1896 it is in fact substantially a new and much larger work. The earlier volume comprised 553 pages, the one before us 809 pages. The arrangement is much improved, the typography is better, side heads are in bold face type, the illustrations are skillfully executed, and the book is in all respects a better text-book for medical students than was the first edition.

In connection with diagnosis of pregnancy we do not recall any author who lays stress upon certain changes in the gravid uterus which we have found of great diagnostic value in the latter part of the second month, namely the marked softening, lateral expansion and relative antero posterior thinness of the body of the uterus when caught between contractions. There is no more reliable evidence of pregnancy at this period. The pot-bellied-jug shape which is observed during contractions and which is so much emphasized by writers is not so readily made out and is less conclusive.

We are glad to note that Dr. Davis has not wholly abandoned symphysectomy. He thinks the operation still has a place in obstetric surgery. That is our own conviction. In certain cases of exhaustion after neglected labor or ineffectual attempts at delivery by other methods, in the lesser degrees of pelvic contraction, the child still being viable, it offers a good chance of saving both lives when Cæsarean section would be impracticable.

Many other features of special interest might be mentioned, but space forbids. Many minor topics are discussed which at the hands of most writers receive little or no attention.

The work throughout bears the marks of individuality and is eminently practical. We bespeak for it a cordial reception. C. J.

**THE PRACTICE OF OBSTETRICS.** Designed for the Use of Students and Practitioners of Medicine. By J. Clifton Edgar. *Second Edition, Revised.* Phila., P. Blakiston's Son & Co., 1904. xviii, 17—1153 pp., 5 col. Cl. 8vo. Price: Cloth, \$6.00.

That a second edition of Dr. Edgar's obstetrics has appeared so soon is creditable alike to the ambition of its scholarly author and the enterprise of the publishers. Much valuable new matter has been added and important revisions have been made. Hyperemesis, icterus,

eclampsia and coma are discussed in their relation to toxæmia. The subject "Fever in the Puerperium" including puerperal sepsis has been rewritten throughout. Many of the illustrations though of a high order of excellence in the first edition are still more elaborate in the new.

The work in the present form will be read with profit by all interested in the most advanced views and methods of obstetric theory and practice. C. J.

**NERVOUS AND MENTAL DISEASES: A Manual for Students and Practitioners.** With an Appendix on Insomnia. By Joseph Darwin Nagel, M.D. Phil. & N. Y., Lea Bros. & Co., 1904. 276 pp. 12mo. Price: Cloth, \$1.00. (*The Medical Epitome Series*.)

This little book is essentially for the student and beginner in the study of neurology and mental diseases, and while it might be of use to the busy practitioner, can offer nothing new to the specialist or advanced student. The common varieties of these diseases are thoroughly and concisely covered, the diagrams and illustrations being of an excellence and number unusual in this class of books. A number of symptoms are treated at length, and the appendix on insomnia is especially to be commended as far more than the mere drug list often seen in larger works on this subject. Necessarily, only recognized and accepted theories and methods have been touched upon, and therefore it contains little to which exception might be taken, but from the student's point of view a section on symptomatology and the methods of examination and diagnosis would have enhanced its value. Space also might have been given to a consideration of optic atrophy and neuritis, and their importance in many nervous affections given more prominence. In the treatment of chorea no mention is made of watchfulness of cardiac conditions. We note the acceptance in both text and diagram of a definite cerebral graphic centre, while a localized centre for concepts does not gain recognition. The classification of manic depressive insanity is apparently not used.

R. K.

**INTERNATIONAL CLINICS. Vol. II. Fourteenth Series, 1904.** Phil., J. B. Lippincott Co., 1904. viii, 314 pp., 19 pl. 8vo. Price: Cloth, \$2.00.

To those who desire to investigate the part taken by insects in the spread of disease, and the recent progress made in tropical medicine this volume will prove very valuable and interesting. There are several well written illustrated articles on the subjects. Uncinariasis, which has been the subject of much careful work in recent years, is historically, pathologically, clinically and from a therapeutic standpoint treated with well executed illustrations by Prof. Allen J. Smith.

A chapter on the etiology, diagnosis and treatment of arterio-sclerosis deserves special attention.

The volume is a good one, and will appeal to all students of medicine.

**INTERNATIONAL CLINICS. Vol. III. Fourteenth Series, 1904.** Phil., J. B. Lippincott Co., 1904. Col. front., viii, 302 pp., 15 pl. 8vo. Price: Cloth, \$2.00.

The first 123 pages of this volume are devoted to the consideration of syphilis. There are 12 well written articles on the subject and a large number of beautiful plates accompany the text. The symposium is, in reality, an up-to-date treatise. It is superior to the ordinary treatise in its practical clinical character.

The volume contains much other valuable material on therapeutics, medicine, surgery, gynecology and neurology.

**REGIONAL MINOR SURGERY: Describing the Treatment of those Conditions Daily Encountered by the General Practitioner.** By George Gray Van Schaick, M.D. N. Y., Internat. Journal of Surgery Co., 1904. 226 pp. 8vo. Price: Cloth, \$1.50.

The favorable comments made upon the first edition of this work apply with equal force to the second edition.

The term "minor surgery" is often misused. No surgery is minor in its importance to the patient. The term as here used applies to that kind of surgery which

must frequently and can rightly be performed by the general practitioner and we felicitate the author in presenting his work from this standpoint. He has written a thoroughly practical and useful treatise upon this important subject.

We congratulate the author upon the prompt recognition his work has received in this flattering call for the second edition. WILLIAM FRANCIS CAMPBELL.

**THE STUDENT'S HANDBOOK OF SURGICAL OPERATIONS.** By Sir Frederick Treves, Bart., K.C.V.O., C.B., LL.D., F.R.C.S. New Edition, Revised by the Author and Jonathan Hutchinson, Jun., F.R.C.S. Chicago, W. T. Keener & Co., 1904. xii, 486 pp. 12mo. Price: Cloth, \$2.50.

As the author states in the preface this book is intended for the use of students. It is in reality abridged from the author's well-known work "Manual of Operative Surgery." It is not an exhaustive treatise, but simply deals with the most commonly performed operations.

The general principles of operative surgery, the anatomy of the part and the results are not discussed in this work, furthermore the rarer operations receive no attention. However, it is admirably adapted for the use of students and those who wish to review operative surgery, we know of no work better adapted for the purpose intended. It merits unqualified endorsement.

WILLIAM FRANCIS CAMPBELL.

**SURGERY. A Manual for Students and Practitioners.** By M. D'Arcy Magee, A.M., M.D., and Wallace Johnson, Ph.D., M.D.; with an Appendix on X-Ray Work in Surgery, by Edward O. Parker, A.M., M.D. Phil. & N. Y., Lea Bros. & Co., 1904. 295 pp., 7 pl. 8vo. Price: Cloth, \$1.00. (*The Medical Epitome Series*.)

This is one of the medical epitome series giving us a resumé of surgery.

It is best adapted for use by the student who is reviewing his surgery or preparing himself for examinations. The text is exceedingly lucid and compact, presenting as it does the essentials of surgery. Questions are arranged at the end of each chapter for purpose of self-examination.

This volume is not intended to take the place of a text-book, but forms a most convenient method for reviewing the subject when a larger book is not accessible.

WILLIAM FRANCIS CAMPBELL.

**AMERICAN EDITION OF NOTHNAGEL'S PRACTICE.—Tuberculosis and Acute General Miliary Tuberculosis.** By Prof. Dr. G. Cornet. Edit., with Additions, by Walter B. James, M.D. Phil., N. Y. & Lond., W. B. Saunders & Co., 1904. 806 pp. 8vo. Price: Cloth, \$5.00; Half Morocco, \$6.00.

The always interesting subject of tuberculosis has never been so thoroughly and exhaustively discussed as in the volume under review. Professor Cornet's treatise, with the additions by the American editor necessary to bring it to date, is indispensable to all practitioners who have to do—and who has not—with tuberculous infections. The many efforts to prevent and to arrest the disease, now being made by public agencies as well as by private means, depend for success upon a minute knowledge of the malady, and physicians as the educators of public opinion should make it a point to keep abreast of the latest advances in the study and management of tuberculosis. English-reading medical men may consider themselves fortunate that Cornet's work has been made available for their uses.

G. R. B.

**NEW METHODS OF TREATMENT.** By Dr. Laumonier. Trans. and Edit. from the Second Revised and Enlarged French Edition by H. W. Syers, M.A., M.D. Cantab. Chicago, W. T. Keener & Co., 1904. xvii, 321 pp. 12mo. Price: Cloth, \$2.50.

This book gives succinctly, but with sufficient fullness, an account of the chemistry, pharmacology, and thera-

peutic uses of various remedies and methods of treatment. Thus one finds discussed nutrition and blood alterants, mineral medication, respiratory, renal, and vaso-motor alterants, opotherapy, sero-therapy and vaccination, nerve alterants, antipyretics, and anti-septics. The majority of these agencies are of very recent discovery. Many of them are more or less familiar, by name at least, to those who try to keep posted in current medical literature. A smaller, but still considerable, number have become popular, such as creosotal, the strontium salts, piperazine, heroin, adrenalin, thyroid extract, colloidal silver and the like. While Dr. Laumonier is at times not over-critical in estimating the virtues of the less-known drugs and methods of treatment his treatise is most valuable to anyone who wishes to obtain information regarding the latest developments in this important department of the art of medicine. Its preparation must have entailed a deal of work in searching through contemporary periodicals.

**ELEMENTS OF GENERAL RADIO-THERAPY FOR PRACTITIONERS.** By Dr. Leopold Freund. Translated by G. H. Lancashire, M.D., M.R.C.S., L.R.C.P. N. Y., Rebman Co., 1904. Front., xix, 538, 59 pp. 8vo. Price: Cloth, \$5.00; half leather, \$6.00.

This book is the production of the man by whom—as the translator says—more than any other the foundations of radio-therapy have been laid. The author, Dr. Leopold Freund, of Vienna, has written a work which deals with the elements of electricity, and the physics, physiological action, and therapeutic uses of high-frequency currents, X-rays, Becquerel-rays, and heat and light rays. This volume is evidently the result of a vast amount of research, both in the laboratory and the library, as well as in the clinic-room. As a whole this treatise may fairly be termed exhaustive. It is but natural that the great majority of authorities quoted should belong to England and the Continent, although the work of some of the more prominent American investigators has not been overlooked. The reviewer is not qualified to give a critical summary of this work, but feels it safe to say that no one in this line of study can afford to be without it. G. R. B.

**A SYSTEM OF PHYSIOLOGIC THERAPEUTICS.** Edit. by Solomon Solis Cohen, A.M., M.D. Vol. 7.—Mechanotherapy and Physical Education, Including Massage and Exercise. By John K. Mitchell, M.D.: and Physical Education by Muscular Exercise. By Luther Halsey Gulick, M.D. Phil., P. Blakiston's Son & Co., 1904. xvi, 17—420 pp., 1 ch. 8vo. Price: Cloth, \$2.50.

The present volume of this well-known series maintains the high quality of its predecessors. In addition to the principle portion of the book as indicated in the title, special articles have been supplied upon orthopedic apparatus, corrective manipulations in orthopedic surgery, and physical methods in ophthalmic therapeutics. The book is well illustrated by many excellent photographs and diagrams.

Bearing in mind the extravagant claims made by certain previous writers upon such subjects, concerning the curative influence of massage and mechano-therapy, it is exceedingly pleasant to find a treatise like that under consideration in which knowledge of methods is conjoined with well-balanced judgment as to results. The book can be highly commended as a most practical and interesting presentation of modern methods and news in regard to mechano-therapy. G. R. B.

**ELECTRO-DIAGNOSIS AND ELECTRO-THERAPEUTICS.** A Guide for Practitioners and Students. By Dr. Toby Cohn. Transl. from the Second German Edition and Edited by Francis A. Scratchley, M.D. N. Y. & Lond., Funk & Wagnalls Co., 1904. xiii, 280 pp., 8 pl. 8vo. Price: Cloth, \$2.00.

This is a particularly useful work for those who have but a slight knowledge of the subject. Especial pains have been taken to avoid or to greatly simplify the

usual technical and mathematical discussion which commonly precede the practical sections of such treatises. Throughout the book the same clear and simple manner of presentation has been very successfully maintained. The author is thoroughly sensible in his statements regarding the therapeutic action of electricity. He states without reserve that a very considerable part of its therapeutic results (p. 162) is due to the psychic effects of its administration. On the other hand there are certain chemical and physiological effects produced by the electric current which undoubtedly may play an important rôle in the cure of disease. After all what difference does it make provided the end is attained. The book is well illustrated. The plates showing the points of application of the electrodes are particularly good. G. R. B.

**SCIENCE AND IMMORTALITY.** By Wm. Osler, M.D. Houghton, Mifflin & Co., 1904.

In this charming lecture, delivered on the Ingersoll Foundation before Harvard College, our distinguished colleague does not attempt to harmonize science and religion. He rather points out the attitude of human society as he observes it toward the subject. Dr. Osler characterizes and defines three sets of people as he finds them, the Laodiceans, the Gallionians, and the Fresians—the lukewarm, the skeptical and the zealots. The author can find no reason for a belief in a future life, though this admittedly exists and accounts for much that is great and noble in the human character. For himself he agrees with Cicero, preferring to be wrong with Plato in holding such a belief than right with the host of those who deny immortality. And in this firmly setting forth his position—himself a scientist of renown, he seems to make a strong argument for immortality. The heart has reasons which reason cannot understand, but shall the heart of man, therefore, be denied a hearing in the final determination of this question. Is not faith as sure as ever-shifting and short-sighted science. Our best understanding of life seems to predicate continuance rather than cessation. The doctrine of evolution seems to demand such a belief.

This is a most suggestive and valuable book.

W. S. H.

**SOCIAL DISEASES AND MARRIAGE, SOCIAL PROPHYLAXIS.** By Prince A. Morrow, A.M., M.D. N. Y. & Phil., Lea Bros. & Co., 1904. xxi, 17—190 pp. 8vo. Price: Cloth, \$3.00.

This excellent work on a repellent subject should be in the library of every physician, for, strange as it may seem, many of the profession are lamentably ignorant of the terrible and far-reaching results of the "social evil" and their weighty responsibility in dealing with it.

The author's vast experience as a teacher and writer on these diseases enables him to speak with authority and the simple sureness of a master; while the high morality and mental refinement of the man empowers him to touch upon every point of his very difficult subject in a way that commands our hearty commendation and respect.

Any one having the lives and welfare of humanity at heart should study and learn from this book, for while the writer never forgets to express a sympathetic comprehension of the sorrows springing from these evils, he unsparingly deals with the selfishness and stupidity that involve the innocent in the punishment of the guilty; in other words he places the blame where it belongs and does not try to gloss it over with high-sounding platitudes or meaningless phrases, in fact the chief merit of the book is its direct truth and manly straightforwardness.

Unfortunately the book will reach only a small portion of society, the medical men; while it, especially the concluding chapters, should be in the hands of every educator, minister and parent, then the warning it contains and the educational value of the work would stimulate all to help "solve the unsolvable problem" and perhaps after years of patient work and weary waiting the "social evil" would no longer menace the lives, health and happiness of innocent women and children.



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## ORIGINAL ARTICLES.

### ACUTE TUBERCULOUS PNEUMONIA.\*

BY WILLIAM OSLER, M.D.,  
Johns Hopkins University.

You all know pulmonary tuberculosis. Many of you know it too well; many of you grow weary of it, and weary of the poor fellows who come to you week after week and month after month, and you are glad to see them go to some other doctor; yet there is much to make pulmonary tuberculosis one of the most interesting and satisfactory diseases for you to study. There are not only the chronic forms and types so familiar to us all, but there are also those remarkably acute forms, with one of which I wish to engage your attention this evening.

It was that great clinician Stokes who first made a division of acute pulmonary tuberculosis into (1) the miliary tuberculosis; (2) the pneumonic form; and (3) a broncho-pneumonic form, in which with an acute course there were found post-mortem areas of broncho-pneumonic caseation. It is the second of these varieties upon which I shall speak. The history of the disease I cannot enter into at any length. Clinically, it was not known either to Laennec or to Louis, that is to say, they did not recognize an acute pneumonic form of pulmonary tuberculosis; but Laennec described the gelatinous infiltration and the extensive cheesy areas so common in the disease. Andral gave a wonderfully good account, and Stokes a remarkable description. One of the best and clearest pictures was given by Traube in his account of green sputa. Waters and Wilson Fox, in England, and Austin Flint, in this country, have written on the subject. The best modern articles are by the French writers.

And first let me speak of the anatomical condition. Both lungs are rarely involved; as a rule only one; almost invariably there is an old focus of disease either at one apex or in a bronchial gland, or a focus of tuberculosis elsewhere in the body. As a rule the apex is much

more involved than the other parts, the upper portion much more frequently than the base; in some instances the entire lung, from apex to base; occasionally parts of both lungs are involved. I would like to read to you two dictated descriptions of post-mortems in this special form of the disease:

CASE I.—H. W. Lungs. Right weighs about 850 grams, is crepitant throughout, but in posterior part contains much blood and serum and very little air. In anterior part of upper lobe are three or four groups of small gray nodules, five to six in each group; no caseous masses. Left lung weighs over 1,500 grams, almost double that of the right lung; pleura covering it is smooth; organ heavy, and in great part airless, being crepitant only at the anterior border of the lobes. A section through the long diameter of upper lobe presents the following appearances. At the apex there is a small, irregular cavity, the size of a walnut; the walls soft, infiltrated with caseous matter. Above the cavity the tissue is airless, of a reddish color, and has a glistening gelatinous appearance. The surface is not granular, but here and there through the tissue are small, gray, translucent bodies about the size of a pin's head. Further down, and toward the anterior border these gray bodies become more numerous and thickly crowded together in a deeply congested tissue. The greater part of the lobe is solid and firm; tissue dry, grayish white in color, coarsely granular, presenting the appearance of a caseous pneumonia. In the central part the section is uniform, but towards the lower and anterior borders strands of deep red tissue separate the firm anæmic areas and give a very peculiar character to the exposed surface. In the intervening congested districts small gray granulations are seen, often close to the solid parts. The lower lobe is deeply congested. Throughout the entire substance are grayish-red, solid areas, some round, others in irregular tracts, but all presenting a dry, coarse surface. The anterior third of this lobe is crepitant and contains scattered tubercles. Bronchial glands are a little enlarged; no tubercles.

This patient died on the 29th day from the

\* From stenographic report of address delivered.



onset, and the lung presented a very good picture of the anatomical condition before the uniform caseation and consolidation. I have seen but one earlier case, and in that the caseous nodules were so closely set together that there was practically no intervening reddish tissue. It looked very much indeed like an ordinary pneumonia which had just passed into the gray hepatization.

In the following case the condition was more advanced, the patient dying in the middle of the tenth week of the disease:

CASE II.—George R. Lungs. Left, pleura thickened; layers united at apex, covered with recent lymph in lateral region. Organ firm, solid and heavy, weighing 1,490 grams. On section a large cavity is exposed at the apex, containing clots and a reddish, yellow, very glutinous pus. The walls are exceedingly irregular, lined by rough caseous masses, and crossed in spots by vessels and bronchi. No aneurismal dilatation on any of the vessels detected. The cavity occupies about a third of the upper lobe. The rest of the organ is firm and airless, with the exception of a small margin at lower part. On section it presents a uniform, opaque-white color; surface is dry; tissue breaks readily. Vessels and bronchi pervious, and about them there is a little gelatinous-looking tissue. On close inspection the individual air cells can be seen, but in most places very faintly. All parts present the same dry, cheesy appearance.

Right lung, weight 540 grams; full in volume; crepitant except at part of apex, which presents a small cavity surrounded by infiltrated, gelatinous-looking tissue. Tissue of middle lobe near root is in state of gelatinous oedema. Lower lobe contains several small caseous masses and a few firm nodular bodies like tubercles.

Here is represented the terminal stage of an average case, lasting from ten to twelve weeks, and in which the entire lung, or one lobe, is converted into a uniform, caseous or cheesy material. The condition was known to the old writers as the caseous or scrofulous pneumonia, and some of you may remember that Niemeyer taught that this might result from an ordinary pneumonia. You remember his dictum, "the worst thing that could possibly happen to a consumptive was to become tuberculous," believing that the products of an ordinary lobar pneumonia could become cheesy and caseous.

As a rule, there is no widespread dissemination of tubercles throughout the body. The other lung may be healthy; it is rare to find extensive tuberculosis of other organs; yet there is noth-

ing special in the pulmonary lesion, even when most acute, it presents features which we see in every case of tuberculosis. These are the individual small tubercles, the surrounding desquamative pneumonia, the areas of caseation and the areas of softening. The peculiar thing in this form is that large blocks or areas, an entire lung, more frequently an entire lobe, become rapidly infiltrated and rapidly undergo caseation and softening. Herein is the sole peculiarity in the acute pneumonic phthisis.

The mode of origin of this type has been much discussed of late. It is not easy to understand how a large area of lung can become involved with such rapidity, and that within a few days, for instance, an entire upper lobe may become tuberculous, and how in the course of a week from apex to base, in a man previously sound, the lung may become consolidated and caseous. It has usually been held that it is an aspiration tuberculosis, that is to say, that there has been a small focus of disease at the top of the lung, and there has been a bursting of a large quantity of tuberculous material into the bronchi, and by aspiration the lobe or the entire lung has become infected. This is the usual view, and I think the one that gives the most reasonable explanation of this remarkable variety. But recently Aufrecht and Tenderloo (the latter a very careful Dutch student of tuberculosis) have suggested that it may be a hematogenous infection like miliary tuberculosis. Tenderloo describes one case of very early bilateral involvement, with death about the eighth day, very suggestive of a hematogenous rather than an ærogenous invasion.

Acute pneumonic phthisis is a rare form of tuberculosis. I have notes of fifteen cases, four females and eleven males. This agrees with Fraenkel and Troje's statistics; as a rule the males outnumbered the females usually two to one. A majority of the cases have been in middle aged persons; there were only two of my cases under 20. There were four cases between 20 and 30, five cases above 50. In a great many of the cases there is a history of dissipation, not generally of any special debility. As a rule, the disease attacks persons in good health, not known to have tuberculosis—individuals going about their work without any suspicion of latent disease.

The *clinical features* are very remarkable. There are two special types, in one the disease resembles in every respect ordinary lobar pneumonia; in the other typhoid fever. As a rule, the

disease sets in abruptly. In nine of my fifteen cases the onset was with a chill, and the patient could fix definitely the date. In the other six cases, three of them the onset was acute but without a chill, in two the onset was insidious, but as a rule, the disease sets in just as does lobar pneumonia, acutely and with a chill. The percentage of chill in my cases is rather higher than that given by Fraenkel and Troje.

Following the chill there are fever, cough and pain in the side, so that you have the four cardinal features of onset of acute lobar pneumonia, and when on the second day perhaps rusty expectoration follows, the diagnosis is clear, is in fact unavoidable; and when you percuss the chest and find an area of consolidation at one apex which extends day by day, with tubular breathing, you are not in doubt for a moment as to the existence of a croupous pneumonia.

The sputum gives you the first indication, perhaps, that you are mistaken. In some instances a remarkable change occurs as early as the third day. It becomes grass green; not very frequently, only in three or four cases in my series, but in Traube's series very much more often. Indeed, his original description dealt with the subject of green sputum—so remarkable was this feature of the disease. In other instances the sputum remains rusty for the greater part of a week, and if an examination is made you may find nothing but blood and mucus and a few leucocytes and pus cells. On the eighth or ninth day, when you expect the crisis, instead of an improvement the patient gradually grows worse, or perhaps there is a toxæmia out of proportion to so limited a lesion, as the disease drags on for two weeks, you begin to suspect that there may be something different, and you have the sputum examined for tubercle bacilli, which, to your astonishment, are present in abundance. Even then, if you are old-fashioned you may say, "Oh, well! pneumonia sometimes does end this way!" and you may not believe that your case was originally tuberculosis. The routine examination of the sputum is the only way in which you can escape from a very mortifying clinical mistake; you cannot save yourself entirely, since you are pretty certain to make a mistake at the outset.

Of the twelve cases in which tubercle bacilli were found in my series, in one case they were present as early as the fourth day, in one case on the eighth, one on the ninth, one on the fourteenth, one on the fifteenth and one on the sixteenth. In one case the bacilli were not found until the thirtieth day and on the twenty-second

examination for tubercle bacilli. Elastic tissue is also frequently found, not early as a rule, but late; rarely before the fourteenth or fifteenth day.

A leucocytosis is present in a great majority of the cases, and adds, as you see, to the complication in your mind as to the diagnosis. You think, of course, with a high leucocyte count it must be pneumonia. It is astonishing the intensity of the leucocytosis in some instances; in one there were 74,000 leucocytes per cubic millimetre—a very unusual number even in lobar pneumonia. In a few cases cyanosis is marked, but it is not so constant a feature of this form as it is of acute miliary tuberculosis.

Toxæmic features are present in a number of cases, and when early and profound may lead to the diagnosis of typhoid fever. We had such a case two years ago, in which the disease came on insidiously. The patient had high fever at the time of admission, and was profoundly toxæmic, and for more than a week or ten days we overlooked the condition of the lower lobe of his left lung, which was completely consolidated. The post-mortem showed that we had been dealing with a case of pneumonic phthisis, not one of typhoid fever, as we had supposed at first. What adds to the difficulty is the almost constant presence of the diazo-reaction. The diagnosis, of course, is cleared and helped in these cases by the absence of the Widal reaction and the failure to cultivate typhoid bacilli from the blood.

The *Physical signs* are very definite and distinctive from the outset. Usually there is a distinct friction corresponding to the pain in the side, and that is marked and intense in the majority of instances. Early consolidation is the rule, and you may have complete consolidation of an entire lobe within forty-eight hours of the onset. That, too, puts you off the notion that it could possibly be tuberculous, but it is well to bear in mind that thirty-six hours may completely stuff a lobe with tubercles, so that it will give a Skodaic resonance, and within forty-eight hours, flatness. In a majority of our cases tubular breathing has been present in an intense degree. The French writers lay great stress on suppression of the breathing over the consolidated area, but in many of our cases there was intense tubular breathing. There may be fine crackling, crepitant râles at the onset, and then later the large bubbling râles; and as the lung begins to break you may then have signs at the apex of a cavity. It may be indeed the first thing to call your attention to the fact that you have a case of tubercu-

losis—the remarkable change at the apex from ordinary tubular breathing to definite cavernous breathing or the loud resounding character of the rales. Usually these features occur in connection with definite changes in the sputum. But, as a rule, the physical signs are definite; in every one of the fifteen cases physical signs suggesting pneumonia were present; sometimes the consolidation of such an extent, involving an entire lung, that the case is mistaken for one of pleurisy with effusion.

In a majority of cases the *course of the disease* is downward. There are three groups. First, the fulminant or the very acute, in which the patient dies within fourteen days, even earlier; the fourteenth day was the earliest in my series. One of Traube's cases died on the sixth day, and one of Fraenkel's on the eighth day so that it may be an exceedingly malignant type, killing more rapidly than any known form, not exceptingiliary tuberculosis or tuberculous meningitis. In three or four of our cases this exceedingly rapid course was present. One patient died on the thirteenth day, one on the twenty-first and one on the twenty-fifth.

One case not included in the series, as I have mislaid the notes, is deeply impressed upon my own mind, as on two successive occasions I had brought the patient into the lecture room to illustrate an ordinary pneumonia. It was not until the twenty-first or twenty-second day, shortly before his death, that we found the tubercle bacilli. The man, a very healthy fellow, a cab driver, had been exposed to the wet late one night. He was a man addicted to drink, and following the very severe wetting, he had a chill, and the next afternoon at three o'clock he was admitted to my ward. There were pain in the side and rusty sputum, and all of these features of which I have spoken. Three days later I showed him in my clinic for a case of pneumonia. The physical signs and history were characteristic—there was nothing lacking. A week later I showed him again in illustration of the same disease and thought in all probability, as the fever was keeping up and the consolidation was extending, that it was a creeping pneumonia. It was not until three days later that we found tubercle bacilli and elastic tissue, and the students enjoyed the benefit of a revised diagnosis at the next clinic—a good lesson for us all.

Secondly, the group of acute cases in which death occurs within ten to twelve weeks—the galloping consumption, or as the old writers used to call it, *phthisis florida*. In this form the fever

does not diminish, nor does the cough abate, but all the symptoms become aggravated after the tenth or twelfth day. The patient begins to sweat, the expectoration changes, the condition gradually grows worse, and you watch a gradual progress to the grave. Usually with the severe sweats and alternating high fever, there is softening and the picture of a pulmonary tuberculosis of a most severe type is before you. Sometimes the patient dies very suddenly; one of my patients died very unexpectedly without any apparent cause, possibly of dilatation of the heart. Another patient died in the tenth week, of a sudden hemorrhage; as a rule death is slow and from asthenia.

In a third group the patients improve, and even get well enough to leave the hospital. Though the disease may set in with great abruptness, there is an abatement of the severity of the symptoms, a gradual lessening of the fever, and the case runs into the course of an ordinary case of chronic pulmonary tuberculosis. Four of the fifteen cases in my series ran this course. One of them we did not expect to live on the tenth or eleventh day, so seriously ill was he. The fever was high, all the symptoms severe, particularly the toxic features, and yet in the second and third week these severe symptoms abated, and he gradually got well enough to get up and to go out, but with signs of softening at one apex.

I have already spoken enough of the diagnosis. I do not think it is worth while to speak of the *differential diagnosis* between this disease and croupous pneumonia at the onset and during the first week. There are really no differential criteria. The consolidation of one lobe occurs rapidly, with the same features—pain and cough and rusty expectoration—as ordinary pneumonia, so that there is no possibility of a diagnosis even should you have a suspicion beforehand that the patient has had a tuberculosis. As I mentioned in one of our cases, the tubercle bacilli were present as early as the fourth day, but probably not from the fresh disease of the lung, but from the old focus of softening. It is well to remember that large numbers of bacilli may come from a small focus of disease. In one instance the bacilli came from a cavity certainly not larger than a good sized walnut, and we made an erroneous diagnosis on the presence of these bacilli. No wonder, as the patient had been operated on two years before for tuberculous peritonitis and had recovered. She came in with solidification of one lung, which we thought, naturally enough, to be a tuberculous pneumonia, because of the

presence of the bacilli. It turned out post-mortem that the bacilli came from a small cavity in the lobe of one lung, and she had in addition an extensive lobar pneumonia.

As a rule, the only safeguard in the diagnosis of the disease is the careful, systematic, routine examination of the sputum—daily examinations. Now, of course, the busy practitioner does not have the sputum in every case of pneumonia examined for tubercle bacilli; that would be foolish, but when at the end of the eighth or ninth day the crisis has not occurred, and when conditions arise in which the patient looks badly and you begin to be a little suspicious, then bear in mind that this form of pulmonary tuberculosis does occur and have the sputum carefully examined for bacilli and for elastic tissue.

One of the greatest difficulties is in the differentiation between an unresolved pneumonia and this type of tuberculosis. You know that the consolidation in pneumonia may persist for two or three weeks, with the symptoms gradually diminishing, and you may be in doubt whether it is an empyema or whether an unresolved pneumonia. Usually resolution occurs by the third or fourth week, but when the consolidation persists for eight weeks or ten weeks, or, as in one case I remember, for thirteen weeks, of course you are pretty well assured that it is not an ordinary pneumonia, and yet it may be and the lung may clear up completely!

The diagnosis from typhoid fever is often very difficult, quite as much so as is miliary tuberculosis. As a rule, in typhoid fever even with a bronchitis or a slight pneumonia, a leucocytosis is not present to any great extent. There is a tendency to leukopenia rather than to an increase in the leucocytes. In a majority of cases of tuberculous pneumonia the leucocytosis is high and it may reach a maximum grade. The diazo reaction is present in the urine in both. The Widal reaction is very important, and the cultures from the blood not often made in private practice, but most useful in hospital work, help in doubtful cases to differentiate between the typhoid fever and true pneumonia, or between typhoid fever and tuberculosis.

Of the *treatment* I need not say much. The majority of the cases are hopeless. That four or five of my cases, even with sharp onset and severe course, recovered enough to leave the hospital is a hopeful feature. One of these patients, a young Swede, may possibly have had an arrest of the process as he left the hospital, having

gained weight, with only slight fever and cough; and yet his condition for ten or twelve days looked perfectly hopeless. The treatment of any case which seems reasonably hopeful is the treatment of pulmonary tuberculosis, which has been hammered into you *ad nauseam* of late; but I find even after all this hammering the general practitioner does not treat tuberculosis without medicines. He often does treat it without *rest*, without *fresh air* and without *proper diet*; the three things which will arrest a large number of cases of pulmonary tuberculosis *if*, and the *if* is with you gentlemen, *the diagnosis is made early*.

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**REPORT OF A CASE OF ACUTE SEPTIC INFLAMMATION OF THE THROAT AND NECK, IN WHICH THE OEDEMATOUS SWELLINGS WERE DISPERSED BY THE USE OF ADRENALIN CHLORIDE.**

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BY THOMAS R. FRENCH, M.D.

A somewhat interesting case came under my observation in the Immigrant Ward of the Long Island College Hospital last October, and as its character was the same as that which formed the subject of Sir Felix Semon's brilliant lecture at the Polhemus Clinic last November, the editor of this journal has asked me to report it for publication in the issue of the journal following that in which the lecture appeared. It is quite certain, however, that neither the editor nor the writer would feel that the case warranted a report were it not that the method of treatment which was successfully employed to combat one of the serious accompaniments of the affection, seems, as yet, to be but little known to the medical profession. As, therefore, the purpose of this writing is to call especial attention to the remarkable action of adrenalin chloride on oedematous swellings in the upper air passages, the report has been prepared with that feature prominently in mind and consequently omits many of the details of the case which might otherwise be of interest.

The patient was a Greek laborer who was unable to speak a word of any other language than that of his native land, and as during the first few days we were unable to find an interpreter of modern Greek, we were, in a measure, embarrassed because of our inability to acquire any information from the patient except through gestures and facial expressions.

Late in the afternoon of October 14th, Dr. H. Michaelis, Medical Interne in charge of the Immigrant Ward under the direction of the immigration authorities, called me by telephone to ask my advice in regard to a case of oedema of the uvula which had begun to appear three days before. The doctor said that he had already scarified the parts, with the result of affording the patient considerable relief. Having previously had surprisingly satisfactory results from the application of adrenalin chloride in a number of such cases, I advised the use of a 1-5000 solution in this case until I could see the patient with the doctor. The applications were made with a cotton wound applicator every two hours during the night, and on the following day, when I saw the patient with Dr. Michaelis, the act of swallowing which had evidently been extremely painful the day before, appeared to be occasioning much less discomfort. An examination of the fauces revealed the presence of a high grade of inflammatory activity. The uvula was much enlarged, but there was no oedema. The temperature which the day before had been  $101.4^{\circ}$  was now exactly the same. No further applications of adrenalin chloride were made that day as the oedema did not recur in the uvula.

On the following day the act of swallowing had, judging from the facial grimaces, again become excessively painful, and a rather loud and increasing laryngeal stridor had appeared, accompanied by somewhat labored respirations. The left side of the neck was seen to be considerably swollen, and on palpation was found to be exquisitely tender. It was quite evident that a septic inflammation had begun to develop in the deep tissues of the neck. On laryngoscopic examination the epiglottis, arytenoid cartilages and aryepiglottic folds were seen to be the seats of large oedematous swellings which were rapidly encroaching upon the lumen of the larynx. The temperature on this, the sixth, day of the attack was  $102^{\circ}$ , the respirations 27, and somewhat stridulous and labored as I have already said. An analysis of the urine had revealed nothing abnormal except a rather high specific gravity.

Heretofore the indication for the relief of a condition similar to that existing in this patient's larynx has been either to scarify the oedematous swellings with a laryngeal lancet, or to introduce an intubation tube, or to perform the operation of tracheotomy. The treatment decided upon in this case was, however, the free application every hour of a 1-5000 solution of adrenalin chloride, by

means of a tuft of cotton wound upon a curved applicator.

After the first application had been made the respiratory movements became less labored, and by the time the fifth application was made the laryngeal stridor had quite disappeared; the sound produced by the breathing becoming nearly normal. Dr. Michaelis sat at the bedside during the night in order to make the hourly applications, watch the patient's condition and be on guard for a possible recurrence of the oedema. There was no recurrence in this case, but in two other cases under my care the oedema returned because the applications were stopped too soon.

On the next, or seventh, day of the attack, a laryngoscopic examination showed that the oedema had nearly disappeared from the cavity of the larynx, and although there was considerable congestion and infiltration of the tissues the lumen of the larynx was practically normal. The swelling of the neck and tenderness to the touch were, however, apparently as great as the day before. The temperature was then  $98.4^{\circ}$ . Dr. Gordon R. Hall made a painstaking examination of the thoracic and abdominal viscera with negative results. An interpreter was now secured, and from him the first information was obtained regarding the patient's history. The man was sent to the hospital by the immigration officials straight from the ship. The diagnosis of the illness for which he was referred for treatment was given by the ship's surgeon as "gastric fever." I thought it quite possible that a foreign body had caught in the larynx or laryngopharynx, but no such history was elicited, and it was learned that the patient had no consciousness of trouble in his throat when he was admitted to the hospital, the first symptoms appearing on the fourth day after admission in the form of a feeling of fullness and pain in the throat.

On the following, or eighth, day of the attack, though there had been no evidence of the escape of pus into the throat, the swelling of the neck began to subside, the tenderness to disappear, and from that time on he made an uninterrupted and speedy recovery, so far as his throat was concerned.

This must be regarded as a comparatively mild case of septic inflammation, for the inflammatory process did not extend beyond the neck or the oedema below the larynx, and while it was certainly not as severe as some of the fatal cases so graphically described by Sir Felix Semon, it is our belief that if relief had not been given, the

patient would have been suffocated by the oedematous swellings in his larynx.

The most instructive feature in this case—to call attention to which is the especial reason for presenting this report—was the magical dispersion of the oedema of the fauces and larynx by the application of a solution of adrenalin chloride. This was not an exceptional case illustrative of the swift and effective control of acute oedema of the upper air passages by adrenalin chloride, for in at least a half dozen cases of oedema in which I have applied this organic remedy it has effected a similarly happy issue.

There seems to be almost no literature on the effect of suprarenal capsule, or its derivatives, upon oedematous swellings. Indeed, with the exception of Grayson, who in his text-book calls attention to its contractile action on oedema, I am not aware that any writer has mentioned it. I do not, therefore, know of another case in which this remedy has been the sole dependence when the watery swellings had reached an obstructive degree. This experience would seem to prove that adrenalin chloride has the power of controlling extensive oedemas quite as readily as those of limited areas.

While the vaso-constricting action of the drug upon serous infiltration of the sub-mucous cellular tissues is very remarkable, it would, in view of our limited experience with it, be extremely unwise to go armed alone with a cotton carrier to combat an oedematous laryngitis. Not until we have had a more extended trial of adrenalin chloride in these cases will it be possible to determine its reliability in all degrees and forms of oedema of the larynx. Judging, however, from the experience I have already had with it, I am strongly inclined to the belief that it is capable of controlling oedema of any mucous surface which can be readily reached with a cotton applicator, or spray from an atomizer. In those rare cases in which the swelling extends below the glottis it is doubtful if the solution could be applied successfully, except by intratracheal injection, and for the relief of which a low tracheotomy would, probably, have to be performed.

As no technical skill is needed to make the necessary applications, it seems to the writer to be at least probable that the treatment of these cases will, to a large extent, be transferred from the hands of the surgeon to those of the physician, for the results obtained thus far clearly show that adrenalin chloride may be used with a high degree of confidence in its controlling power upon all degrees of oedema of the upper air passages.

## THE CLINICAL SIGNIFICANCE OF THE TUBE CASTS IN THE URINE.

BY THOMAS C. CRAIG, M.D.,

(Continued from January issue.)

As we have before intimated, renal troubles are the result of congestion or of inflammation, either acute or chronic, and it is to these latter conditions that the term nephritis is applied. In this term nephritis is implied, a loss of balance between the stroma and the cells. In the slowly developing cases we have the stroma in excess, while in the acute cases the reverse is true.

In trying to arrive at a correct conclusion we must take into consideration other factors, such as the habits of the individual, the onset and course of the disease which preceded the renal manifestation, the remedies which have been employed, for it is a well-known fact that remedies sometimes cause renal disorder or give rise to accompanying symptoms such as albuminuria, and thus confuse a correct deduction. Then, again, the condition of the heart, whether hypertrophied or not, whether valvular disease exists or not, whether valvular sounds are exaggerated or not, and whether the arterial tension is increased or not, will all have an influence to aid us in arriving at a correct conclusion.

Further, we must bear in mind that a previously chronic renal trouble may have engrafted on it an acute exacerbation, as for example where an acute parenchymatous nephritis complicates an old chronic interstitial nephritis. This may seem paradoxical, but is very possible when we call to mind the fact that in some cases only one kidney is diseased, and then only in limited areas, leaving other areas of apparently normal tissue, and it is these areas that are then attacked. Again, the urine at different times of the day may show widely different results, and for this reason a mixed 24 hour sample is always the best for examination. It has been claimed by some observers that it is always necessary for albumin to be present in the urine in order to render the presence of casts of serious import. Albumin is present in the acute and more marked renal troubles, but in some of the chronic disorders it is sometimes intermittently absent, or is only found in the sample secreted after the wear and tear of a day's toil.

While it is true that some writers have recorded cases of both acute and chronic renal disorder, in which albumin was absent from start to finish, yet these cases are exceedingly rare, and the true renal lesion can then only be decided by

other confirmatory symptoms. One author, who has a national reputation as a writer and teacher on renal troubles, makes the following statement in the last edition of his work: "While large albuminurias of renal origin can scarcely be due to anything else but renal disease and the degree of albuminuria is within limits a measure of the extent of the disease, yet the important fact remains that there may be true albuminuria, usually moderate, in which there is no disease of the kidneys whatever; there may also rarely be Bright's disease, in which there is no albuminuria whatever. The significance of albuminuria is always increased by its association with tube casts, yet there may be both albumin and casts in urine where there is no Bright's disease, while on the other hand there may be Bright's disease without albumin or casts. I incline myself to the belief that such cases are infrequent, and yet this possibility must be acknowledged" (Tysons's Practice, p. 671, Ed. 1900).

Strumpel says, in his latest edition: "It is not very exceptional for sore throat, particularly follicular tonsillitis, to occasion acute nephritis, and the same is true of acute intestinal disease."

Another writer has said that "albumin and casts are not infrequently due to torsion of the vessels at the renal hilum by mobility."—*Medical Annual*, 1902, p. 377.

I am conversant with a case in which a uterine tumor, by pressure on the ureter, gave rise to renal congestion, with the result of albumin and hyaline casts in the urine. After the tumor was removed the albumin and casts disappeared.

So we can readily see that, as was previously stated, other facts must be taken into consideration in the interpretation of the significance of casts in the urine, even though albumin may or may not accompany them. In trying to decide if one or both kidneys are involved in disease, some practitioners carry their investigations to the extent of securing the urine from each kidney separately by means of catheterizing the ureters and thus eliminate from consideration the kidney that is not diseased. Sometimes the presence of casts is overlooked in our examinations, though not intentionally, but from the fact that they are sparsely present, and we happen to get hold of and examine a portion of a specimen which does not contain any of them. For this reason it has been my practice to concentrate the sediment in all specimens in which it is small in amount.

This is readily done by filtering a certain quantity and then puncturing the apex of the filter and washing the residue into the centrifugating

tube. In this way casts are frequently found that would otherwise be overlooked.

We occasionally meet with cases that are difficult to reconcile with the facts shown by a urinary examination.

I have under observation at present a gentleman of healthy appearance who leads a very active and strenuous life as president of a large company. He consulted me nearly three years ago on account of a constantly recurring suboccipital headache. No cause for the headache has yet been found, eye strain even being eliminated, although they very seldom recur now. He had a highly acid urine, which contained and does yet contain an abundance of cylindroids, small and medium-sized clear hyaline casts. Repeated examinations, extending over nearly three years, has never shown any trace of albumin present. His habits are exemplary and always have been so, there is no hypertrophy of the heart, nor any increase of the arterial tension. For a long while I have had him on a diet sparse in nitrogen, so as to reduce the amount of uric acid as low as possible, with the idea that a uric-acidæmia was the cause of the headaches. He appears to be in the very best of health, save for the occasional headache, but yet there are plenty of hyaline casts in his urine.

About a year ago I examined the urine of a person aged about 40 years, which contained quite a number of small hyaline casts, many of them being quite granular. Another examination of this same person's urine, made ten days later, showed it to be perfectly free from any kind of casts. I then learned that this person had been suffering from a sharp tonsillitis at the time of the first examination, and that this condition had subsided some days prior to the last urinary examination. At no time was there any albumin present. A medical gentleman of this city, and a former member of this society, had been the subject of a chronic interstitial nephritis for some years. He suddenly became incapacitated for work. The urine showed blood, albumin, small and large hyaline and granular casts, and in addition epithelial casts. This was a case of an acute parenchymatous nephritis setting in as a complication to a chronic interstitial nephritis. What had been the remaining healthy tissue in the kidney was suddenly attacked by an acute process, and the disease ended fatally.

A gentleman about sixty years of age, one of the proprietors of a large store in this city, applied for life insurance but was declined on account of the presence of a few medium sized clear



hyaline casts in his urine. There was no albumin present. He is hale and hearty to-day, without any sign of disease, and has not missed a day's work in years. This is a case of senile degeneration of the kidney structures, due to advancing years. Quite recently I examined a person of about fifty-two years of age for life insurance; his urine showed the most minute trace of albumin, by one of the more delicate tests, but no casts or renal epithelium were found. I kept him under observation, and the following week found a like trace of albumin and one medium sized hyaline cast; a few days afterward another urine examination showed quite a trace of albumin. His complexion was not healthy, being a pale waxy white. There was no cardiac hypertrophy or increase in the arterial tension present, yet I am certain that this was a case of commencing interstitial nephritis. I might add that this gentleman's father died of Bright's disease, and that his mother died of apoplexy—probably of nephritic origin.

These cases are what we call "border land cases," and it is on their early diagnosis and subsequent treatment that their longevity depends. In marked contrast with these cases is one which I examined recently. A man about thirty-eight years old, amount of urine in 24 hours 40 ounces, containing 468½ grains of urea, a large per centum of albumin. The microscope showed quite a large number of small, medium-sized and large hyaline casts, quite a number of small round epithelial cells from the renal tubules, a few waxy and oily casts, quite a number of darkly granular casts and an occasional epithelial cast. I learned that this gentleman had been suffering from renal trouble for some time, but had lately been indulging rather freely in the wine cup, and as a consequence was laid up for repairs. This case, to my mind, was an old interstitial nephritis which had lately had engrafted on it, as a complicating factor, an acute parenchymatous nephritis—probably as a result of his own over-indulgence in alcohol.

This case ended fatally in about three months afterwards. The significance of the tube casts in this urine was quite apparent.

The question of the hereditary tendency of nephritis is one which clinical writers are paying more attention to now than formerly. In the latest edition of Tyron's Practice he says: "Hereditary influence is occasionally a cause of contracted kidney. A remarkable instance of this has occurred in my own practice. I was consulted by a man, aged thirty, who had granular

kidneys. His father and mother both died of Bright's disease, aged fifty-six and sixty-three years respectively. The mother had convulsions. A brother died of Bright's disease without convulsions, at the age of thirty-seven. Two children of this brother had Bright's disease when four and seven years of age respectively. A second brother died at the age of twenty-nine with convulsions. A third and fourth brother, aged twenty-three and thirty-two years respectively, have had Bright's disease for six years.

A sister, aged thirty-six, has had Bright's disease for five years. A brother aged twenty-six, and a sister aged thirty-four have as yet exhibited no signs of Bright's disease. A maternal cousin died of undoubted Bright's disease, and other members of the family belonging to previous generations died with symptoms which suggest Bright's disease. The patient himself has undoubted granular kidney, discovered in 1880. An examination of his urine in 1876 revealed no evidence of the disease. There is no gout in the family. Dr. Dickinson also relates the history of a family in which a hereditary albuminuria existed independent of gout."

I am personally acquainted with a young man of thirty-two years of age whose father and paternal grandfather died of Bright's disease, and who now has albumin and hyaline casts in his own urine, thus possibly showing an hereditary tendency to renal trouble.

Quite recently I examined the urine of a young man about thirty-two years old. The day before he had taken a very rough horse-back ride. His urine was reddish brown in color, of high specific gravity, heavily loaded with urates. Chemically it contained three-quarters of one *per centum* of albumin, and the microscope showed quite a number of small and medium-sized hyaline casts, some of them darkly granular. Another examination of this person's urine three days subsequently showed the complete disappearance of albumin and casts, and a third examination, a few days afterwards, was negative so far as the presence of albumin and casts were concerned. I merely quote this to show how rapidly and how completely these abnormal bodies may disappear from the urine. I always regard with suspicion the case of a young person with tube casts in his urine, even when albumin is absent and there is no disease present to account for the casts; and an old person with albumin in his urine, even when casts are absent and there is no disease present to account for the albumin.

"Casts are rarely found in alkaline urine, no

matter what renal lesion exists. In surgical kidney, so called pyo-nephrosis, for instance, the urine rapidly undergoes ammoniacal decomposition, rendering it alkaline, and casts are seldom found therein, although the renal changes are very grave."—Purdy's Bright's Disease.

The albuminous-like material which forms the basis of nearly all urinary casts seems to be dissolved by some inherent solvent in an alkaline urine, hence it is that in suspected cases, where the urine is persistently alkaline, we must adopt a line of medication which will render the urinary secretion acid, and we will then be able to secure a specimen with the casts intact. As was previously mentioned, I cannot too strongly urge on my hearers the necessity of concentrating the sediments in all specimens by means of filtration, thus striving to obtain all the elements it contains and of examining slide after slide until we are confident of having observed all of the physiological and pathological elements contained in it, and then by a close study of these, and by a proper classification of them, I am positive that a much clearer understanding can be reached. In this connection I would like to call attention to the very common, but erroneous, practice of many medical examiners using high powered objectives in urinary microscopy. A two-third inch objective will find all the casts in any specimen, a one-fifth or one-sixth inch only being used to differentiate and study the finer structures in detail.

Another point is to use a mechanical stage so as to be able to search every part of the field systematically. In obtaining the sediment for examination centrifugating is the only true, safe and accurate method to depend on for reliable results.

When an albuminuria accompanies casts, the significance of the latter is always of much more serious import. Indeed, I might say that albumin will always be found in company with casts, sooner or later, in all cases where there is serious organic renal change going on.

I think that albumin is often overlooked in urinary examinations, because it is not carefully sought for, or is not sought for with enough persistence or under favorable circumstances. Examinations for albumin should always be made in clear daylight, and never by artificial light. Of course, in all cases it will be necessary to determine whether there is present a true renal albuminuria or false albuminuria, and this can only be done by excluding all those causes which give rise to false or extra renal albuminuria.

How are we to decide, then, in those cases where we find tube casts present in the urine, whether accompanied by an albuminuria or not. As I have already intimated, we must examine carefully the character of the cast as to the size and kind, we must look at it with both low and high power and search it for granularity, for adhering blood or pus corpuscles or bacteria. We must decide whether it is hyaline, waxy, oily or fatty. We must also study the character of the epithelial cells present and decide whether or not they are from the renal tubules; we must also examine them minutely to see whether they are clear or granular or fatty.

We must also look for the presence of free pus corpuscles and free red blood discs and bacteria, for it is a well known fact that bacteria will soon disintegrate and destroy some of the more delicate hyaline casts in quite a short time—hence it is always important to examine freshly voided urine for diagnostic purposes.

A urine voided late in the afternoon always gives better results than that passed on rising in the morning. To obtain the most satisfactory results it is best to examine a mixed sample of the 24 hours' urine; then we are able to obtain a better index of the working power of the kidneys and any abnormal products that may be present during that time is more certain of detection. With the 24 hours' sample we are also able to calculate the amount of urea, uric acid, chlorides, phosphates and sulphates voided, and also to examine for indican and acetone. Repeated examinations will also tell us whether these things are constantly present, and in varying numbers and amounts. In addition to this should be a critical search for the presence of albumin and casts. With these facts before us, and knowing the habits of the individual, his age, the condition of his heart, arteries and abdominal organs, we ought to be able to arrive at a reasonably accurate conclusion in regard to the significance of the tube casts in the urine.

187 Cumberland St., Brooklyn, N. Y.

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#### STERILE WATER ANESTHESIA IN THE TREATMENT OF HEMORRHOIDS.\*

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BY MARTIN L. BODKIN, M.D.,

Rectal Surgeon, Bushwick Hospital, Brooklyn.

In introducing the use of sterile water anesthesia it is with the single purpose of describing briefly the method and results as obtained by me

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\* Read before Brooklyn Medical Society, September 16, 1904.

in the treatment of hemorrhoids only, disregarding its application to a broad field of minor surgical operations.

Local anesthesia by the subcutaneous injection of water has been used for the relief of non-operative pain since 1868; later cocaine, morphine and other drugs were introduced into the nerve trunk or subcutaneously with varying results for the relief of neuralgia.

Lofton, of Virginia, describes in the *Medical Record* of March 14, 1903, the use of hot decinormal salt solution injections into the hemorrhoid with the purpose of anesthesia and subsequent sloughing of the hemorrhoidal mass. Later, Gant of New York, in his paper read before the Medical Association of Greater New York, described the method of water anesthesia which I have followed. He claims in his private and clinical work this method has been most gratifying, devoid of danger and has almost completely supplanted the use of a general anesthetic. Sufferers from hemorrhoids are not willing to permit the removal of so apparently insignificant a trouble by taking an anesthetic which they consider dangerous to life, or, at any event, cause them a loss of time from business or other duties. Therefore, a conservative painless method without a general anesthetic for the removal of hemorrhoids is a necessity. My clinical experience and operations upon twenty cases have demonstrated all of these good features in the sterile water method. One can operate in his office with the assurance to his patient that he will not cause great suffering and subsequent discomfort.

With a hypodermic syringe the sterilized water is injected into the hemorrhoid after the patient has pushed the tumor into view, which may be facilitated by the previous injection of a glycerine and water solution. The injection into the hemorrhoid is made slowly, steadily and to such a degree as to turn the tissue white. This whitened area represents the field of complete anesthesia. The whitened tumor or tissue is seized with a forceps and held by an assistant. The base is snipped around with a scissors to hold the ligature, which should be small, strong and tightly tied when the portion of hemorrhoid external to it is cut off. Up to this time the patient suffers from a feeling of fullness or when the injection has been rapidly made from a distention pain. Its removal relieves existing discomfort and there is little, if any post-operative pain. A suppository of morphine sulphate or B eucaine may be inserted if necessary. On the fourth or fifth day the ligature cuts through, and there is

a clean open wound at the former base of the hemorrhoid, which should be dressed with a 20 per cent. ichthylol in glycerine solution every second day.

Gant believes the anesthetization of the part injected to be due to the pressure upon the nerve-ends or blood vessels.

The irritability of the nerves caused by cocaine, eucaine and similar drugs which increase after-pain and danger of hemorrhage or drug poisoning are features to be considered and make such agents secondary to the apparently simple and effective water anesthesia which has not been followed by dangerous or unpleasant effects, nor has there been undue pain or tendency to bleeding.

The failures in this method to procure complete anesthesia are due to the escape of the water through a former puncture with the needle or that the hemorrhoids might be deeply ulcerated and the injection too superficial.

If the ligature method be not selected one can substitute the clamp and cautery or dissection.

The advantages are:

1. Sufficient anesthesia to operate upon one, two or three hemorrhoids at one time with a slight degree of pain.
2. The hemorrhoid is rolled out in a tumor-like mass, which is quickly handled.
3. One needs only a hypodermic needle and water, preferably warm.
4. The anesthesia instantaneously follows the injection.
3. No dangerous complications have followed the employment of simple sterile water.
6. That it is apparent from results that injections of carbolic acid are completely superseded by this safe and simple procedure, which can be carried out in the office, and in a shorter time, and cause much less suffering to the patient.

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#### THE DIAGNOSIS OF EMPYEMA IN CHILDREN.\*

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BY JOHN W. PARRISH, M.D.,

Visiting Physician to St. Christopher's Hospital for Babies.

My excuse for bringing this subject before you is the great importance of early diagnosis in the successful treatment of this disease. The shorter

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\* Read at a meeting of the Section on Pediatrics, Oct. 26, 1904.

the period of time that the pus remains in the chest the less thickening of the pleura will there be and the more readily will expansion of the lung occur. I believe the commonest cause of failure to make an early diagnosis is neglecting to make careful examinations of the chest after pneumonia, and some other infectious diseases. If it were always kept in mind that this disease frequently comes on insidiously and without marked symptoms referable to the chest this error would be avoided. It should be remembered that in children under 5 years of age purulent pleurisy is far more common than any other form and, in general, the younger the child the more apt is a pleurisy to be purulent. Allbutt quotes St. Bartholomew's Hospital reports, showing that out of 78 cases of pleurisy in children under 5 years there were 53 empyemas. I doubt if the cases of very slight effusion of serum with pneumonia are included. Holt states that in children under 5 years, nine-tenths of all empyemas either accompany or follow pneumonia. To diagnose a fairly large non-sacculated effusion in the chest of a child is generally an easy matter. There is lessened movement of the affected side of the chest, with perhaps fullness or bulging of the intercostal spaces. There may be oedema of the chest wall—not often seen except in empyema. Very characteristic if present is displacement of organs. The heart is displaced, particularly in left sided effusions, but also in large effusions on the right side. The liver may be displaced downward in disease of the right side, but unless pronounced, this isn't so characteristic, because the liver naturally extends below the free border in young children. Vocal premitus may be absent, but on the other hand it may be normal. Voice and breathing may be diminished or lost, but more often are bronchial, though usually seeming somewhat faint or distant instead of close under the ear as in pneumonia. At the level of the fluid egophony is sometimes heard. Rarely in children are friction râles heard at the level of the fluid. The percussion note over the fluid may be dull, flat or tympanitic. There is a distinct sense of resistance felt in percussion. In small non-sacculated effusions the dullness is only found at the back of the chest, and its upper border is highest near the spine and descends rapidly to the posterior axillary line. In moderate effusions the upper line of dullness is curved; it is lower near the spine, rises in going toward the axilla and then descends again. In moderate and large effusions, if not sacculated

and if the chest is not practically full, the level of the fluid changes with the position of the patient, that is, it is higher in front when the patient is sitting than when he is lying down.

Above the level of the fluid the resonance is more or less dull or tympanitic. Beneath the clavicle and near the spine at the upper part of the chest, tympanitic resonance may be obtained when all the rest of the chest is flat from a very large effusion, the so-called skodaic resonance, heard over compressel lung. The breathing above the fluid level is exaggerated, broncho-vesicular or bronchial, depending upon the amount of compression of the lung or on the presence of unresolved pneumonia. There may or may not be bronchial râles. It is sometimes stated that râles are not heard over the fluid. This certainly is not true in infants, for loud râles may sometimes be heard well down to the base of the chest. There are some other peculiarities in the case of infants, viz.: displacement of organs is not common except in very large effusions; dullness or flatness is often not well marked, being replaced by tympanitic resonance; and as mentioned before, breathing and voice are not often simply diminished or lost but are generally bronchial, though frequently at the same time diminished. To get much information from the percussion of an infant's chest the percussion stroke must be light and the sense of resistance must be noted.

In making a diagnosis the clinical history and the symptoms other than the physical signs are of course to be taken into consideration. In ideopathic cases the symptoms at the beginning may closely resemble pneumonia. A history of pneumonia, in which the symptoms have not cleared up as expected or after subsiding, have to some extent reappeared, is suggestive of empyema. So also is the development of decided pallor and weakness with loss of appetite, subsequent to a pneumonia. Marked sweating, with or without hectic fever, after pneumonia, naturally suggests pus. Following scarlet fever an effusion into the chest is usually purulent.

Cough, increased rapidity of pulse, dyspnoea and pain are often present, and a temperature that is irregularly intermittent or remittent. The cough may be troublesome, slight or absent. Dyspnoea is only present on exertion unless the fluid has increased rapidly. Pain may be present at first and then disappear or may not be present at any time. The temperature may run from 99 to 103 or higher, or it may be prac-

tically normal, and certainly after the first week it frequently is normal or nearly so.

In many cases a positive diagnosis can only be made by exploratory puncture, and this should always be done to confirm the diagnosis. A solid lower lobe, particularly if there is a slight serous effusion, will very closely resemble empyema. A number of times I have been agreeably surprised at getting only a little clear serum with my needle. In some cases, and I think it is usually where there is only a thin layer of pus compressing the lung, there are loud resonant râles and tubular breathing, not high pitched, that make out a picture much like that of a large cavity at the base—a thing not often found in infants.

A sacculated empyema, if it occurs at the base, where Holt says it usually does occur, will present no difficulty not easily removed by the needle. If at some other part of the chest and the amount of the fluid is small, a diagnosis from broncho-pneumonia can only be made by puncture, and even with that the diagnosis from abscess of the lung may be impossible. Holt reported last year two cases of abscess of the lung in both of which the diagnosis of sacculated empyema was made. On operation no pus was found in the pleural cavity, but the lung was firmly adherent to the chest wall. One recovered by aspiration, the other by drainage. In both cases loud pleuritic friction sounds were heard, and he suggests these râles as a means of differentiation between abscess of the lung and sacculated empyema, since if the pus were immediately under the chest wall there would be no friction. This seems to be a very good point, although friction râles would not necessarily exclude an interlobar sacculated empyema. Holt also suggests as a diagnostic point the difficulty found in getting pus when a second puncture was made in the exact locality at which the pus had originally been obtained. The failure was due to the fact that the needle taking a different direction missed the small collection of pus.

In interlobar cases the diagnosis is sometimes only made when the pus opens into a bronchus and the child expectorates a large quantity. Sometimes the diagnosis is made post-mortem.

Rosenbach records a case of interlobar empyema in an adult in which pus had been obtained by deep puncture, and none was found on opening the chest. With a finger as a guide he introduced a trocar and withdrew a large amount of pus between the upper and lower lobes. Cavity was drained and the patient recovered.

As he states that numerous thin adhesions and plastic deposits were found, I think it fair to assume that friction râles were present.

In diaphragmatic empyema emphasis is laid on the marked disproportion between the symptoms and the physical signs. There is apt to be severe pain at the epigastric region, dyspnoea and perhaps cyanosis. There may be singultus. There is decided loss of motion at the hypochondriac region of the affected side. A difficult but fortunately rare problem is the differentiation between diaphragmatic empyema and subphrenic abscess. I have had no experience with Litten's sign, the absence of the shadow of the diaphragm when the chest is examined with the fluoroscope. This ought to be of much service, because in subphrenic abscess the shadow of the moving diaphragm would be seen, while in empyema it would not. Theoretically, and perhaps practically, there would be in subphrenic abscess a lessened movement of the diaphragm and one limited to the *upper* portion of the normal range of motion. While in diaphragmatic empyema whatever movement occurred would be in the *lowest* segment of the normal range. A comparison between the movements on the sound and diseased sides might be useful. Unfortunately either of these two diseases may be secondary to the other, in which case the diagnosis would only be made at time of operation. In all cases where there is a doubt as to the presence of empyema the leucocytes of the blood should be counted. Leucocytosis occurs in both lobar and broncho-pneumonia, but according to Koplik the increase in broncho-pneumonia is only about half as great as in lobar, and it is from the former that we must differentiate in the most difficult cases. While therefore a moderate leucocytosis would afford little information, a marked leucocytosis would point strongly to empyema. It should be remembered that the degree of leucocytosis depends not upon the volume of pus but upon the amount of infection; so a very small empyema may cause a very high leucocyte count. In infants and young children the leucocytes are normally more abundant than in the adult. As sacculated empyemas are sometimes multiple, a leucocyte count would be useful in showing whether all the cavities had been drained by the operation. In making an exploratory puncture careful antisepsis should of course be observed and the needle should be of sufficient calibre—much larger than a hypodermic needle. If the effusion is general puncture may be made at the posterior axillary

line in the sixth, seventh or eighth space, at which point the chest will subsequently be opened if pus is obtained.

If the effusion is not general, puncture should be made at the point at which the signs are most distinctive. Sometimes the pus is too thick to flow through the needle. In this case there is usually a small drop of pus in the point of the needle if care is taken in withdrawing it not to let the piston be shoved down and force out whatever the needle contains. This drop under the microscope may be sufficient for a diagnosis.

The general appearance of pus from the chest is somewhat characteristic. The pneumococcus is apt to be thick and creamy, with large, fibrinous masses. Often it has a distinct greenish tinge. The streptococcus pus is more yellow and thin. Tuberculous pus has something of a grayish shade. Blood mixed with the pus doesn't necessarily indicate malignant or tuberculous disease.

The pus should always be examined bacteriologically. In the majority of cases only the pneumococcus is found, and these are the most favorable ones. Following the other infectious diseases or inflammations of other structures, bones, joints or umbilicus, the streptococcus is usually found; much less often the staphylococcus. Rarely other organisms may be found—the typhoid bacillus, saprogenic bacteria and others. Two or more kinds may occur in the same pus. Absence of all bacteria is a strong point in favor of tuberculosis, some authorities regarding it as pathognomonic. Not all empyemas that follow pneumonia are due to the pneumococcus. Also a pneumococcus empyema may occur without pneumonia, and it may occur in a tuberculous subject.

*In conclusion.*—You may find an infant lying pretty comfortably in bed without pain, cough, dyspnoea or fever, and yet one side of his chest may be half full of pus. He simply appears pale and weak and breathes somewhat rapidly. The fact that you find well marked bronchial breathing and voice with numerous loud râles (not friction) and no loss of vocal fremitus does not in an infant exclude empyema. If with the presence of more or less definite signs of localized consolidation there are loss of appetite, increasing pallor and weakness, a high leucocyte count and perhaps sweating, you may discard the diagnosis of pus in the chest only after the most thorough exploration with a large sized aspirating needle.

# **ADENOIDS; OR HYPERTROPHY OF THE LYMPHOID TISSUE AT THE VAULT OF THE PHARYNX, AS A CAUSE OF DEFORMITIES OF DENTAL ARCH.**

BY H. H. YOUNG, M.D.,

Riverhead, L. I.

**Etiology:** Race: It is not common to any particular race.

According to Meyer it is met with in the American Indian, Greenlanders, South Americans, Pure Mongrels and natives of South Eastern Asia.

It is prevalent among the natives of Germany, England and the United States.

**Frequency:** Its frequency varies, being least in dry, elevated and warm regions, most frequent in regions of low altitude, along the continental coast lines.

**Age:** According to all authorities the affection generally develops in infancy or early childhood. Bosworth's statistics show 90 per cent. of cases developed thus early. In children the lymphatic tissue is especially susceptible to vascular changes, on comparatively slight causes; and the repeated "colds" from which they suffer. Keep the lymphoid tissue of the pharynx congested, "overfed," so to speak, and overgrowth is to be expected. Children who are often classed as "scrofulous," that is, who have enlarged cervical glands, enlarged faucial tonsils, and are more or less pale and anemic, are more likely to develop adenoids.

The disease is more prevalent in cities than in country districts. Dust, foul gases of various origin, so common in large cities, prove a source of continuous irritation to the nose and pharynx.

The relation and association of adenoid vegetations with various forms of rhinitis is quite marked.

So intimate is this that often it is impossible to say which condition preceded, or whether both are the result of the same causes.

Pathologically we have to deal with three different varieties.

**First:** The soft, smooth, semi-fluctuating mass that spreads over almost the entire naso-pharynx. It is largely influenced by atmospheric changes, and the physical condition of the child. This variety is composed almost entirely of lymphoid tissue, is very friable, and is covered with a thin layer of epithelium with ill-formed basement membrane and sub-mucosa. It can easily be broken up with the finger, and is due to the overdevelopment of the normal lymphoid structure.

The second, or hard variety, appears to the examining finger as quite well defined, hard globular masses. These may be the result of inflammatory changes in the lymphoid structures, the growth of a stroma of connective tissue, with subsequent slight contracture. These growths are generally found in older children and young adults.

The third variety is less common, and may be called the edematous or cyanotic variety.

- There is very little increase in actual gland structure, but the enlargement is due to venous stasis and edema, the result of some constitutional disease or disturbance.

Symptoms: The subjective symptoms will vary, of course, with the extent, seat and character of the enlargement. The most striking sign is the obstruction to nasal respiration, which compels the patient to breathe and speak through the mouth. These patients are often called "mouth breathers." They present a peculiarly stupid facial expression. The pinched nose, open and oftentimes drivelling mouth, noisy respiration, continual acts of gluttony, expressionless eye, dullness of hearing, and nasal intonation of voice, form a group of symptoms which are typical of this condition.

In addition there is often in older children, where the lymphoid hypertrophy has existed for a long time and proved a formidable obstruction, marked deformity of the dental arch. Irregular crowded upper teeth, short upper lip and poorly developed, or actually deformed bony thorax. The subject does not sleep well, snores, has night terrors, enuresis and diaphoresis. Many have recurrent attacks of spasmodic croup.

Deafness is such a common symptom that we always look for it in these cases. Often there is disease of the middle ear structures. If the lymphoid growth impinges over or grows into the Eustachian orifice, it interferes with the ventilation of the tympanum and leads to Eustachian catarrh, earache, or if infection takes place to chronic suppurative conditions.

Kyle states that in at least 90 per cent. of cases of adenoid vegetation, there is involvement of the Eustachian tube with deafness in a varying degree.

Diagnosis: The symptomatology given above would seem to render the diagnosis easy but a digital examination of the naso-pharynx should be insisted upon. The writer has generally found this to be a very easy matter. Often by distracting the child's attention a satisfactory examination may be made without a struggle, or even

after-crying. Place the child in a low, straight-backed chair, stand behind the child and chair. Ask the child to open his mouth widely, press the left cheek of child between upper and lower teeth with your left fore and middle fingers. This will prevent the child from biting your own finger and enables you to dispense with a mouth-gag, which, if used, will almost surely terrify the child and defeat the main object. Pass the right forefinger rapidly back to posterior wall of pharynx, follow this wall up closely, or the soft palate will catch your forefinger and interfere. After your finger has securely grasped the soft palate, carry the tip of finger upward and forward into the naso-pharynx and posterior choana. If there are adenoid masses, you can very easily map them out. The entire examination need not take more than half a minute.

Treatment: Radical removal, under an anesthetic, is the only satisfactory treatment.

It is very necessary that the child should have eaten nothing for at least eight hours previous to the operation. An ordinary kitchen table is provided, covered with a blanket and sheet. The operation should be done at a large window with good light.

On the floor at right of the table, opposite the patient's head, should be placed a rubber or oil-cloth and slop jar.

It is a good plan to have a surgical pad under the patient's head, draped into a jar, as the operation is a bloody one, and unless these precautions are taken carpet and furnishings will get soiled. The anesthetic is given with the head low, and when the patient is nearly under it, the mouth gag is slipped between the teeth and the jaws widely separated.

When the patient is thoroughly anesthetized I depress the tongue with a broad tongue depressor, so as to get a clear view of the uvula, and rapidly pass the post-nasal forceps into the naso-pharynx, grasping the lymphoid masses with the cutting edges, detaching and depositing them in a bowl of water.

This is done first on one side of the nose, then on the other, carefully avoiding the posterior edge of the nasal septum. After removing all the lymphoid tissue that can be thus grasped, the patient is quickly turned on abdomen and chest with the face over slop jar, while the nose and throat are cleared of blood, then patient is again turned on back, and the naso-pharynx thoroughly curetted with the Gottstein curette.

After which the patient is again turned over jar face downward, and nose and throat cleared



of blood, and while in this position the right forefinger is passed into the naso-pharynx and any lymphoid tissue still clinging in shreds is scraped away. If there has been deafness it is a good plan to pass a small curette through each side of the nose, and with the forefinger as a guide in pharynx, curette the openings of the Eustachian tubes.

We now come to that part of the subject which I more particularly wish to bring to your notice. Namely, deformities of the dental arch.

It is a somewhat mooted question just what role adenoids play in causing this deformity.

It is a really serious one, particularly in females, where it seems much more common. The nose and throat specialist, the alienist or the dentist will never settle the question. If it is ever settled it will be by the family physician, he who brings the little one into the world and watches over it through the ills of infancy and childhood, during the time that the deformity is developing. Dr. D. Braden Kyle has this to say on the subject:

"When the enlargement (adenoids) are present in early life, the main symptom demanding relief is the obstruction to nasal respiration, which, if unimpaired as the process of development goes on, has much to do with the regular formation and contour of the face.

"The respiratory act through the nose, as well as the action of the muscles controlling the nasal orifices, are factors of importance in controlling the size of the nasal cavity. If this function is interfered with by any obstructive lesion, as would occur in adenoid vegetations, and that obstruction is allowed to remain until the bony nasal framework has become firmly united, the capacity for nasal breathing is permanently fixed; and even should the gland-structure causing the obstruction be removed, while its ablation may relieve the naso-pharyngeal symptoms, it cannot possibly increase nasal respiration other than by lessening the engorgement of the submucosa subsequent to such obstruction.

"This fixity of the bones of the face may leave the individual a confirmed mouth breather. The effect of impaired respiration due to post-nasal obstruction is also manifested in an ill-formed superior maxillary arch, with marked irregularity in the arrangement of the teeth. This irregular development is largely caused by the repeated contraction of the muscles controlling the nasal orifices, necessitated by the forced nasal inspiration and snuffling.

"By this drawing down of the facial muscles,

the upper jaw is retracted and the contour of the upper arch is altered. The hard palate then, instead of forming a perfect dome, has its anterior portion tilted out and its upper portion, at the base of the nose, drawn in. Without this interference the pressure of the air within the natural passage counterbalances that upon the external surface, and normal development takes place.

"This, of course, will occur only when the obstruction takes place in early life, before the bones are firmly united.

"This irregularity in the arch will produce unevenness in the development of the teeth, causing their irruption high up in the alveolar process, or if placed in the arch, they will crowd and irregular. If the irruption occurs high up, it will add to the protrusion of the upper lip, increasing the facial deformity, so characteristic of adenoid obstructions."

I have recently met with three cases (young women) which illustrate this deformity in a marked degree. They each give a clear history of adenoids in childhood, and I have little doubt but they were the cause of said deformity in each case.

CASE 1.—Miss B., age 28 years, came to my office, accompanied by her father, complaining of obstruction in her nose. Examination reveals the characteristic facies: high, narrow dental arch; crowded, irregular teeth, poorly developed; narrow nasal cavities with insufficient air spaces. On questioning the father, he stated that as an infant the daughter had trouble in breathing, many nights he had gotten up repeatedly to "turn the child over" in order to stop her snoring.

CASE 2.—Miss R. age 20 years. Was called in to prescribe for a severe rhinitis with complete blocking of nares. Facies characteristic: High dental arch, so narrow that my forefinger wedged firmly as I pressed it up into the sulcus. Teeth on upper jaw were irregular, crowded and deformed. Short upper lip, exposing teeth. Applying adrenalin cocaine solution to turbinates reduced them sufficiently to allow the patient to blow from the nose large quantities of thick, ropy mucus. Examination reveals adenoids in naso-pharynx. This case gives a clear history of mouth breathing from infancy.

CASE 3.—Miss A., age 16. Here the deformity is very marked and very similar to the other cases. Her father informs me that she had throat and nose difficulties during infancy and childhood, finally her faucial tonsils were removed, but no examination was ever made as to adenoids.

**REPORT OF A CASE OF APPENDICITIS WITH DIFFUSE PERITONITIS.**

BY J. E. JENNINGS, M.D.

On the 4th of March, 1904, I was asked by Dr. Scofield to see the case I am about to show you.

He gave the following history: Patient is 14; born in this country, and a baker. Had always been in good health until this illness.

He was suddenly seized with violent abdominal pain in the middle of the night of February 26th.

The pain was general at first, colicky in character and accompanied by vomiting of a greenish colored material.

During the course of the day the pain became localized in the right iliac region with rigidity of the right rectus and localized tenderness at McBurney's point. His temperature rose to 101 and his pulse to 100. A diagnosis of appendicitis was made and he was treated with castor oil. An ice bag was applied over the appendix.

The pain and tenderness subsided rapidly and by the morning of the third day he was considered well, got up and went out on the street to amuse himself.

He had no further trouble until the sixth night after his first attack, when he was again seized with pain and vomiting as before. Purgatives and the ice bag failed to relieve him; his pulse and temperature rose. I saw him about noon of March 4th—thirty hours after the beginning of his second attack.

He was lying in bed with his knees drawn up; his face was flushed, but apathetic in expression. He was fully conscious, but answered questions slowly. His temperature was 103, pulse 120, respiration 32.

His pain, which was greatly diminished, was general and dull, but the tenderness was acute. It was fairly well generalized, but was more marked in the right iliac region.

The abdomen was moderately distended; did not move at all with respiration, and was almost uniformly rigid from flank to flank and from ensiform to pubes. He was occasionally regurgitating a dark green mucus. He was removed to the Brooklyn Hospital where a blood examination was made as he was being prepared for operation, and a leucocytosis of 27,800 discovered.

I made a free incision through the outer border of the right rectus and found the peritoneal cavity filled with fluid at sufficient tension to spurt when the membrane was incised.

The appendix was found with a few soft adhesions lying to the inner side of the cæcum, gangrenous and perforated about its middle.

There was no sign of any abscess cavity nor any localized collection of pus. The surrounding coils of intestine were mahogany red and disturbed.

The appendix was ligated, cut through with the cautery and the stump inverted.

But little flushing was done. The immediate neighborhood and the pelvis were irrigated with warm saline, while the crossed silkworm gut sutures were being placed and the pelvis was drained by means of a glass tube.

The patient was placed in the Fowler elevated head and trunk position, and the pus aspirated through the glass drainage tube every four hours. He was given a pint of hot saline by rectum every two hours.

His condition was critical for the first twenty-four hours after which his temperature and pulse gradually fell to normal and he made an uneventful recovery.

The glass tube was removed on the third day and a soft rubber one substituted. This was gradually shortened and removed on the tenth day. He left the hospital on his thirty-second day.

The appendix, when opened, was found to contain a fecal concretion of the shape and size of a date seed.

It was gangrenous and perforated opposite to this mass.

At its root the mucous membrane was inflamed and thickened so as to occlude its lumen.

It is evident from the appearance of the specimen that the involvement of the peritoneum marked the beginning of the apparent second attack.

The peritoneal infection followed the milder staphylococcus type.

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**A CASE OF GOITRE**

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BY E. A. PARKER, M.D.

H. N., female, aged 14, family history negative, menstruation regular for nine months. August, 1903, she noticed a swelling in the front of the neck, which remained stationary until six weeks prior to operation when it began to rapidly enlarge, accompanied by dyspnoea, especially when lying down. The girl was well nourished;

her pulse varied from 100 to 110; temperature normal; urine normal. The thyroid gland was markedly enlarged, both lobes being involved--the right more than the left. May 18, 1904, the operation was performed under local cocaine and sterile water anesthesia. Morphine  $\frac{1}{4}$  grain by hypo, and whiskey by mouth were given. An incision was made along the anterior border of the right sterno mastoid from near the angle of the jaw curving towards the median line below. The gland was freed by blunt dissection, the arteries ligated and the isthmus cut through with a thermo cautery. The skin wound was sewed with silkworm gut excepting the lower angle, which was left open for gauze drainage.

The night of the operation dyspnoea became pronounced with a pulse rate of 128. Dressings were found wet with secretion; the dressings were changed and the wound washed out with saline solution. From that time on recovery was uneventful. On the seventh day the stitches were removed and the wound found healed.

In October the child presented herself for examination; her pulse was normal; her general condition good; no dyspnoea; the left half of the gland occupied the centre of the neck, but had not apparently diminished as a result of the operation on the right side and isthmus.

Points emphasized by this one case were: the efficacy of local anesthesia, the lack of sensation in the deeper structures; that pulling on the isthmus caused almost cessation of breathing; that symptoms of thyroidism developing soon after an operation, consisting of dyspnoea, rapid pulse, and at times delirium, call for a change of dressings and irrigation of the wound.

#### SPECIMEN EXAMINED BY DR. GEO. E. DEELEY.

The specimen consisted of one lobe of the thyroid gland which had been removed by severing the isthmus. The capsule was smooth, lighter in color, somewhat mottled. It cuts harder than a healthy thyroid. The cut surface glistened, presenting a network of tissue filled with a glutinous material. There were several small cysts varying in size from a small green pea to that of a bean.

Microscopical examination showed a very great dilatation of the acini throughout the specimen in places. Several acini were coalesced into one, forming a cyst which was filled with colloid material. In some of these cysts there is an arrangement of cells simulating an adenoma, the cells growing up from the basement membrane. The epithelium is flattened. There may

be only one layer or several layers of epithelial cells lining each acinus, or the cells may extend into the lumen of the acini forming dome-like projections.

The basement membrane is denser than normally and crowded into a narrow band; it also shows the growth of productive tissue. The blood vessels show no significant change.

## TRANSACTIONS OF SOCIETIES.

### THE MEDICAL SOCIETY OF THE COUNTY OF KINGS.

ANNUAL MEETING, JANUARY 17, 1905.

The President, J. E. Sheppard, M.D., in the Chair.

There were 243 members present.

The meeting was called to order, and the minutes of the previous meeting read and approved.

#### REPORT OF COUNCIL.

The following candidates for membership have been accepted by the council.

John J. Colgan, L. I. C. H., 1882.

Carl Fulda, P. & S., N. Y., 1901.

Sigmund Beck, N. Y. Univ., 1892.

W. B. Moseley, Univ. Va., 1890.

J. E. Thompson, L. I. C. H., 1897.

Fred. M. Jacobs, L. I. C. H., 1897.

S. A. Marshall, Johns Hopkins Univ., 1902.

Abe Hayman, N. Y. Univ., 1890.

S. E. Moore, Univ. Pa., 1898.

#### APPLICATIONS FOR MEMBERSHIP.

Applications for membership have been received from the following:

Proposed by J. W. Fleming.

Seconded by W. F. Campbell.

Wm. E. Beardsley, 102 Taylor Street, Bellevue, 1878.

Maurice E. Connor, 95 Berry Street, Bellevue, 1897.

John Koepke, 106 Arlington Avenue, Bellevue, 1890.

Fred. E. Hamlin, 143 Kent Street, N.Y. Univ., 1883.

George D. Hamlin, 143 Kent Street, N. Y. Univ., 1883.

Proposed by O. A. Gordon.

Seconded by E. J. Morris.

Charles G. O'Connor, 970 St. Mark's Avenue,  
P. & S., N. Y., 1899.

Proposed by Geo. McNaughton.

Seconded by Charles H. Tag.

Jacques C. Rushmore, 470 Washington Ave.,  
L. I. C. H., 1903.

#### ELECTION OF MEMBERS.

The following having been duly proposed and accepted by the Council were declared, by the President, elected to active membership.

R. W. Shearman, P. & S., 1901.

F. Tilney, L. I. C. H., 1902.

W. J. Campbell, L. I. C. H., 1899.

W. E. McCollom, P. & S., 1903.

W. K. Jacobs, P. & S., 1899.

Jerome Walker, P. & S., 1868.

S. F. Anderson, L. I. C. H., 1889.

R. A. Black, P. & S., 1883.

W. F. Saybolt, Univ. Pa., 1902.

J. J. Sheehy, Wooster Univ., 1891.

#### HONORARY MEMBERSHIP.

William Osler, M.D., LL.D., Johns Hopkins University.

#### DECEASED MEMBERS.

On behalf of the Historical Committee, the President announced the deaths of the following members:

William Gilfillan, died December 18, 1904, member from 1862 to date.

Henry Cornelius McLean, died December 23, 1904, member from 1878 to date.

Edward F. Smith, died January 2, 1905, member from 1892 to 1897.

#### COMMUNICATION FROM COUNCIL.

The Secretary announced, on behalf of the Council, an anonymous gift of five thousand dollars as a memorial to the late Alexander J. C. Skene.

It was regularly moved and seconded that the Society accept this anonymous gift of 5,000, to be known as the A. J. C. Skene Memorial Fund, if the Society accepts the conditions of the gift. Carried.

On motion, duly carried, the sincere thanks of the Society were voted to the unknown donor.

#### REPORTS OF OFFICERS.

The Secretary's report was read, and, on motion, duly carried, accepted and ordered placed on file.

The report of the Treasurer was read, and, on motion, duly carried, accepted, together with the recommendation that the dues for the current year for active members be ten dollars and non-residents three. The report was ordered placed on file.

#### REPORTS OF STANDING COMMITTEES.

Reports from the following committees were received, and, on motion, duly carried, accepted and ordered on file.

Membership.

Directory for Graduate Nurses.

Entertainment.

Legislative.

Public Health.

It was moved and seconded that the recommendation contained in the report of the Committee on Public Health be accepted. Carried.

#### DIRECTING LIBRARIAN'S REPORT.

The report of the Directing Librarian was read, and, on motion, duly carried, accepted and ordered placed on file.

It was regularly moved and seconded that a vote of thanks be tendered to the President and the Directing Librarian for their efforts in increasing the funds of the Society by \$5,000. Unanimously carried by a rising vote.

#### REPORT OF MILK COMMISSION.

The report of the Milk Commission was received and ordered on file.

It was regularly moved and seconded that a vote of thanks be tendered to the members of the Milk Commission. Carried.

#### REPORT OF BOARD OF TRUSTEES.

The report of the Board of Trustees was read by the Chairman, and, on motion, duly carried, received and ordered filed.

The thanks of the Society to the Trustees were tendered by a vote.

On report of the tellers appointed to canvass the ballots cast for the election of officers for the ensuing year, the President announced the result of the canvass as follows:

President, James W. Fleming.

The President installed Dr. Fleming as presiding officer of the Society, who then made further announcement of the canvass as follows:

Vice-President, William F. Campbell.

Secretary, John A. Lee.

Associate Secretary, William A. Jewett.

Treasurer, Onslow A. Gordon.

Associate Treasurer, John R. Stivers.  
 Directing Librarian, James M. Winfield.  
 Censors, Walter C. Wood, James P. Warbasse,  
 William F. Dudley, Thomas R. French, Henry  
 G. Webster.

Trustee, John E. Sheppard.

DELEGATES TO THE MEDICAL SOCIETY OF THE STATE  
 OF NEW YORK.

Seventy-one members were elected Delegates,  
 whose names will appear later in the supplement  
 to the BROOKLYN MEDICAL JOURNAL containing  
 detailed report of the annual meeting.

The meeting then adjourned.

WILLIAM S. HUBBARD,  
*Secretary.*

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### SECTION ON PEDIATRICS.

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### MEDICAL SOCIETY OF THE COUNTY OF KINGS.

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FIFTIETH REGULAR MEETING, OCTOBER 26, 1904.

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Dr. WM. A. NORTHRIDGE, Chairman.  
 Dr. R. TAYLOR WHEELER, Editor.

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### THE DIAGNOSIS OF EMPYEMA IN CHILDREN.

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BY DR. JOHN W. PARRISH.

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#### *Discussion.*

Dr. L. C. AYER: I have found that the leucocyte count in the blood of children a very uncertain thing. I do not think we can count much on that to show pus formation.

Dr. WM. A. NORTHRIDGE: It is a good plan in empyema to resect just at the point where the needle puncture has shown presence of pus. In young infants, say under one and one-half years of age, an incision alone with a tube to drain is enough, but in older children it is better to resect.

Pull out the drainage tube a little every day. When the tube is too long and left in place longer than it should be the pressure on the lung causes fever. Do not irrigate. Cases do much better without it.

Dr. STIVERS: Some men, I think, use too long aspirating needles. A needle one inch long is enough.

I would like to ask have there been any bad results reported after irrigation that the speakers to-night so object to it.

Dr. R. T. WHEELER: The point brought out in Dr. Parrish's paper on the value of the pleuritic friction r le in the differential diagnosis between abscess of the lung and empyema was well brought out in a recent cases of my own where a child had run a clinical course corresponding exactly to that of an empyema, but throughout the area of flatness at the base of the right lung posteriorly the friction r le was heard. I made a diagnosis of abscess of the lung, although the child's parents refused to allow an exploratory puncture. The diagnosis was confirmed in a few days by a rupture of the abscess into the bronchus with immediate relief of symptoms.

Dr. PARRISH: In regard to irrigation I only do it when there is a bad odor, but where there is not, cases do better without it. I do not know that any bad results have happened after it, but my colleagues and myself have found that cases run a much shorter course when it is not done.

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### THE BROOKLYN PATHOLOGICAL SOCIETY.

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453D REGULAR MEETING, NOVEMBER 10, 1904.

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HENRY G. WEBSTER, M.D., EDITOR.

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The President, J. C. MACEVITT, M.D., in the Chair.

Presentation of Specimen: Slide: *Filaria Sanguinis Hominis*.

Dr. H. G. WEBSTER: The specimen that I have to present is one rather rare in this latitude, and unfortunately not in the best of condition. It has been kept for some little time and the slide is dry, so that it does not show very distinctly. It was a case of suspected filaria that Dr. G. R. Butler asked me to examine three weeks ago. At 11 P. M. I withdrew a drop of blood from the tip of the finger and also one from the ear, and found the embryo of the *Filaria sanguinis hominis* in both drops. It was remarkably active and presented very little difficulty in identification.

This is a specimen of urine that the man was passing at that time. It has darkened somewhat in color, and the shaking up has destroyed the

creamy layer of chyle which formed on the top of it.

After examining eight different slides from the same patient last night I failed to find any trace of the filaria.

Report of Case: An Extreme Case of Talipes Varus; Specimen.

Dr. CARROLL CHASE: The woman to whom this foot belonged, 45 years of age, gave rather a vague history of having received an injury during infancy to account for the deformity; to my mind infantile paralysis was more likely the cause. She stated she was operated on when ten years old. She says the tendons were cut and the foot placed in an appliance to gradually force it back in proper position by turning a thumb-screw three revolutions each day. This was done, but because of the pain she unturned it three revolutions each day, so that no good resulted. The woman has actually walked on top of her foot for thirty odd years. When she finally presented herself for treatment she was willing to undergo anything, and under the circumstances amputation was thought best. It might be stated that an obstinate ulcer on one of the toes added to the discomfort and was an additional reason for amputation. Some authorities state amputation should never be done for club-foot, but in this case it seemed thoroughly justifiable in view of the extreme deformity.

Dr. A. T. BRISTOW: I would like to ask what were the determining factors with respect to the amputation? Why was it thought best to amputate instead of doing an excision of the astragalus?

Dr. G. R. FOWLER: The conservative surgery of the foot is in the position at the present time of requiring, unless there is some very decided and important indication for amputation, that either a resection of the astragalus be done, or that the interior of the astragalus, and in fact whatever bony structure of the foot may stand in the way of the reduction, be simply gouged out through a small opening, the foot forcibly restored and maintained in a position of restoration until such time as healing has taken place, after which a simple retentive apparatus is applied. Of course, it is difficult to assume from a simple examination of the specimen at this time what may have been the determining reasons. The patient, in the first place, may have demanded amputation. She may have been in such a position in life that she could not afford to lay up; that she could not afford to have after treatment applied, which is necessary in these cases. Take it

in a general way, one can merely wonder why a conservative method was not followed instead of the radical procedure, and perhaps Dr. Chase will give us a reason for that. I hardly think we ought to let a case of amputation of a club-foot go by without any discussion.

Dr. C. CHASE: The patient's age had something to do with the fact that amputation was decided upon; she was about 45, but I do not think that alone was enough to justify it. The fact that there was an ulcer which was extremely obstinate and was spreading and was decidedly painful had something to do with it. Also the fact that the tissues were in poor condition. The circulation was very poor, the foot was somewhat shriveled and entirely in the way, and I do not believe a foot as serviceable as an artificial foot will be could have been secured by orthopedic means. The patient was also anxious for amputation, and her wishes in the matter received some consideration.

PAPER: ANGULATION AT THE SIGMOID, A CONDITION OF THE AGED.

BY DR. H. BEECKMAN DELATOUR.

(Published in N. Y. Medical Record.)

#### Discussion.

Dr. A. T. BRISTOW: I think that our colleague, Dr. Delatour, is certainly justified in saying that the question of angulation is a new one; I do not know of any author who mentions angulation of the sigmoid. I took down "Treves on Intestinal Obstruction" this afternoon and looked all through that very exhaustive work, but could find nothing about angulation. Volvulus of the sigmoid occurs very frequently and also obstruction by a band; angulation is not mentioned.

It seems to me when we describe a new condition like this, that we are not justified in assuming that angulation has existed in a case unless we have seen it. That is the criticism that I should make in regard to these observations. Three of the cases operated on recovered, and subsequently the fecal matter passed *per vias naturales*. There was, therefore, nothing to prove angulation except a conclusion of the author that this condition existed instead of a volvulus. It is true that in the aged we do have a lengthening of the sigmoid, a very long mesentery, due, as stated by the author, to the dragging down of the meso-colon by masses of fecal matter in the sigmoid and rectum. Fifteen per cent. of all the cases of intestinal obstruction that occur are cases of volvulus of the sigmoid, and

there are quite a number of cases where the sigmoid becomes obstructed as the result of a band.

I listened with interest in the attempt to hear a description of an angulation, an angulation that was actually observed, but the author did not mention it. It was simply a conclusion that because these patients recovered, and because nothing could be found in the brief examination under local anesthesia, that therefore the condition was caused by an angulation. Even in the cases of mild degree it does not seem to me a hard and fast conclusion that there was an angulation: a half twist would account for the symptoms just as much as an angulation which has not been observed.

Treves made some experiments with regard to the formation of these volvuli in the sigmoid, and he details a series of experiments in which the intestine was distended artificially, and as this distention went on the intestine was seen to make a half turn on itself, and subsequently, when the distention was relieved, the intestine likewise straightened out, so I do not think it stands proven that any of these cases were really cases of angulation. I do not see how the author can explain how there did not exist a half volvulus or a full volvulus, but instead an angulation. The very operation the doctor performed on these cases that recovered would accomplish what Treves did when by relieving the distention of the gut it spontaneously untwisted. So much for the question of angulation. It seems to me we must say with regard to these very interesting cases, "An angulation is not proved." I do not see how he can say there was an angulation unless he saw it.

I can only add my most hearty approval of what the writer has said as to the treatment of these conditions. There is nothing that can be done worse for the cases of intestinal obstruction than to give them cathartics. There is nothing which will precipitate an unfortunate conclusion so quickly and absolutely as the administration of cathartics, particularly the violent ones. Cases of intestinal obstruction as they come to the surgeon divide themselves into two classes, not with reference to the anatomical condition which exists, but with regard to the condition of the patient, which is the most important thing. We get a great many cases almost *in extremis*, and in a certain other class of cases we get chronic obstruction. It is possible in the cases of chronic obstruction that it may be advisable to do an anatomically complete operation, but the surgeon who attempts to do an anatomically complete

operation on the first class of cases will add to his post-mortem records and find out what is the matter on autopsy.

In all cases of that sort I have with great success adopted Greig Smith's procedure and device. His device is to seize the first coil of intestine that comes to view that is distended and make an artificial anus. I have made after his method, and I can recommend it to all who have occasion to work in this class of cases. Opening the abdomen he pulls out a sharp loop of intestine and then introduces into each arm of the gut a very large sized rubber tube. I use a piece of rubber tubing bigger than my thumb. I put my piece of tubing into each arm of the intestine and secure it with a purse string suture. I leave the rubber tube six inches long. I put in a few peritoneal sutures and anchor the tube. The tube is put in the false opening with a clamp on each end, the object of which is to prevent the fecal contamination of the wound. The purse string suture is secured much as in the insertion of the Murphy button. Then we immediately pull out the purse-string suture around each tube. The dressings are then put on and the clamps removed, and in most cases there will be a discharge of fecal matter.

I have had in the last year four cases of the kind described by Dr. Delatour, three of them in old people, one in a lady of about 50. That case I think is worth detailing briefly, because it shows what can be done by rapid surgery, and also by surgery of the sort I have described, that is to say, there being no attempt to reach the cause of obstruction, but simply to release the obstruction. This lady came with obstruction of five days' standing. When I saw her, heavy beads of sweat were on her forehead, her pulse was 140 and she was vomiting fecal matter. I sent her to the operating room and washed out the stomach. This is important. In this case the stomach was washed out until fluid returned clear, and then under cocaine anesthesia I did the operation I outlined. I easily found a protruding coil of intestine, slipped in the drainage tubes and drew the purse-string sutures tight, and soon feces began to pour from the tubes. She made an excellent recovery; in a week she passed fecal matter by the natural channels, and at the end of three months she was passing everything *per vias naturales*, whereupon I did an operation for closure of the artificial anus, and she made a complete recovery. Any procedure but the one adopted in that case would have resulted in the loss of the patient. I cannot conclude, because the patient



got well, and she afterwards passed feces by the natural ways, that she had an angulation. I do not know; she may have had.

A case I saw three weeks ago was similar to that related by the doctor. I saw a man of 76 with constipation lasting six weeks. He had just come from Europe and had a good deal of trouble on the steamer, and did not have a passage for four or five days. I made a median line incision, put the tubes in, purse-stringed them into the gut, and then took off the clamps. The force of the feces was so great that it shot up over my shoulder. He made an excellent recovery. He is now passing practically all his fecal movements by the natural channel and practically nothing at all by the artificial anus, but in a man of that age I should not expect to do an operation to close the artificial anus, if it gives no trouble.

I had a similar case in a patient 80 years of age.

One thing I want to speak of in all the work for intestinal obstruction is this: that the surgeon who starts out with the intent to do an anatomically complete operation will in three cases out of five lose his patients. The safest way in my judgment is this as recommended by Greig Smith. It keeps the fecal matter out of the wound, the discharges can be attended to quite readily, and up to the present I have never lost a case since adopting this procedure.

Dr. G. R. FOWLER: It would seem as if the pathologico-anatomical conditions present in cases of obstruction occurring at the sigmoid flexure is really the question at issue. Of course, it is well known that such a thing as angulation of any portion of the large intestine must be rare, since none of the authorities mention it. That, however, does not say it cannot exist or that it cannot occur. A condition which does occur, however, that of volvulus, it seems to me may so closely simulate that of angulation (if angulation occurs), and granting that it does occur, must so closely simulate the symptoms of volvulus that clinically it would be practically impossible to differentiate between them. Volvulus occurring at the sigmoid, and, of course, we know in the large majority of cases it occurs at this point, as Dr. Bristow has said, is of comparatively frequent occurrence, that is to say, as compared with other causes of obstruction, and certainly as compared with other causes of obstruction in the large intestine it is the predominating lesion.

When we consider that in cases of Glenard's disease, where the colon is found in the pelvis, where the stretching upon the attachments of the

ascending and transverse colon are such as to bring these almost always below the level of the umbilicus, and frequently in a doubled up condition following the descent of the transverse colon, the wonder is that angulation does not occur in these cases, and yet there is no record in the literature that I have access to of angulation of the large intestine, even in cases of Glenard's disease, and Glenard's disease I may remind you, perhaps, is becoming to be more and more recognized, and every year that passes we are called upon to operate for an increasingly large number of cases of enteroptosis, either from lengthening of the mesentery or for some congenital conditions pre-existing, for the leveling up and securing in position of the large intestine, together with the stomach and the usual accompaniment of floating kidney in these cases, and yet we do not see cases of angulation. I am reminded to speak of this because in the autopsy which Dr. Delatour details, the conditions were just such as might occur in a case of enteroptosis, viz.: an angulation at the junction of the sigmoid and the descending colon, and this is precisely where we would expect the angulation to occur in Glenard's disease.

The case first detailed by Dr. Delatour occurred in my own service at the Seney Hospital. I do not recall now that any conclusion was arrived at, at that time, as to the cause of the obstruction.

The appearance presented on opening the abdominal cavity in cases of obstruction, particularly if it be of several days standing, is of enormously distended intestines. It is almost impossible to find the flattened-out intestine above the point of obstruction, and this is the foundation for Greig Smith's recommendation. Of course, theoretically one should place the artificial anus as low as possible, but to find the last coil you must come to a point where the flattened and ballooned intestines meet. Those of you who have seen these conditions will readily understand how difficult it is to determine, first, the exact point of obstruction, and second, the exact lesion present. Eventration will help in this condition, but doing this adds so greatly to the shock that, as Dr. Bristow has said, our post-mortem records would be greatly augmented if this were resorted to, so that in view of all these facts, while I am quite sure that Dr. Delatour's observations have been made in a perfectly correct, concise and conscientious manner, yet I think he himself must feel a little doubt as to the exact pathologico-anatomical condition present.

The question of the conditions existing in volvulus have been gone over. I do not remember that Dr. Delatour in any of the cases operated on, or in the record of the autopsy, stated whether or not there was fluid, or any considerable amount of fluid, present in the abdominal cavity. We know that in cases of volvulus, in cases where the mesentery itself is the subject of a twist, or where the intestine is the subject of so grave an anatomico-mechanical condition as a twist, we know there is a large amount of fluid thrown out, which pours into the abdominal cavity, and infection takes place very quickly; an infection not necessarily the result of perforation of the intestine but due to the passage of bacteria through the wall of the gut, the nutrition of the latter having been so much interfered with as to allow this transmigration, as it might be called, of the bacterial elements, so that where volvulus occurs, whether upon the mesentery or as actual twist of the small intestine, there is a large amount of fluid poured out; of course, largely depending on the length of time that the mechanical interference has existed—the interference with the passage of blood from the intestine and non-interference with the passage of blood to the intestinal wall.

Those of you who have seen hernia that has been strangulated for a day or two will have noted the peculiar turbid fluid, and the large amount of it sometimes found in the hernial sac. This condition occurs in volvulus and may be demonstrated if the lowermost portion of the abdominal cavity or the pelvis is explored at the time.

As to the treatment of cases of intestinal obstruction occurring at the sigmoid flexure: The doctor has gone carefully into the matter of the presence or absence of carcinoma at this point, because, as is generally understood, this is a favorite place for carcinoma, but this should be felt per rectum. You could hardly expect it in an angulation or volvulus; that is, so pronounced a tumor.

I can heartily endorse all Dr. Bristow has said in the matter of conservative treatment of intestinal obstruction, but it does seem to me that some exception might be made in the cases of angulation occurring elsewhere than at the sigmoid flexure; angulation occurring where the operation is done, for instance, in post-operative cases one would scarcely expect so much or so great difficulty in post-operative intestinal obstruction in locating the point of obstruction. It is usually found in the coil of intestine adjacent

to the fold of the original loop, and quite frequently some of the gut exhibits itself to the surgeon as he opens the abdomen, taking it for granted that these cases of obstruction occurring after operation are due to the presence of adhesions and angulation produced by the adhesions. Here it would hardly seem necessary to simply open the abdomen, pick up a coil of distended intestine, introduce a tube and close it again. It would seem, since the adhesions were recently formed, they must be easily broken up and the patient relieved from the very great inconvenience, to say nothing more, of an artificial anus. Even surgeons themselves in the old days recognized what an artificial anus meant to a patient. You know one of the celebrated French surgeons once said, that if he were born without an anus, and he was operated upon and an artificial anus made, that he would have but one ambition in life thereafter, and that would be to grow up and find the surgeon who had thus operated, and kill him.

Dr. G. R. BUTLER: This question is really one for the surgeon. Those of us who practice internal medicine will see comparatively few cases of intestinal obstruction, and when we do encounter them we turn them over to our surgical friends, so I rather fancy we will have to leave it to the surgeons to fight out the truth of Dr. Delatour's very ingenious theory as to the causation of the obstruction in these cases. I do not recall having seen a case of intestinal obstruction which was due to any such cause as that described by the reader of the paper. Those cases that I have had, and which I have turned over to my surgical friends, have proved to be one of the more ordinary varieties, either a volvulus, intussusception or strangulation in a mesenteric slit or an adhesion causing strangulation.

I was sufficiently interested in the very ingenious and certainly plausible theory advanced by Dr. Delatour, to look it up in some of the larger and more encyclopedic text books. I could find nothing in regard to angulation of the sigmoid flexure itself. Curschmann describes an acute angulation of the cæcum and also acute angulation of the hepatic flexure of the colon and acute angulation of the splenic flexure of the colon. Of course, he devotes considerable space to the question of volvulus of the sigmoid itself; the sigmoid being particularly long and loose, its attachment is very readily twisted. Curschmann, however, speaks of an abnormal congenital loop between the lower end of the sigmoid and the upper end of the rectum, dipping down into the pelvis, so that the lower end of the colon lies deep

down in the pelvis. It is hardly possible that that abnormality, which would amount practically to an angulation, should have occurred in as many cases as we have heard reported this evening. The subject is of special interest. I think Dr. Delatour is to be congratulated for having brought it before us, but the weight of evidence seems to be rather against the theory of angulation, judging from the contribution to the discussion of our two surgical friends.

There is one point that Dr. Bristow brought up that has always been a little tender one with me. The surgeons all tell us we must not give laxatives or cathartics in intestinal obstruction. If it comes on suddenly with violent symptoms, the chances are we would not, but we all see cases come on with some slowness. They resemble at first any other case of constipation. One sees sometimes very obstinate cases of constipation. One gives mild laxatives, they do not operate; one gives something more active. One has got to give it. One would not call it intestinal obstruction because the bowels have not moved for one or two days. If a man is constipated laxatives must be given him, and it strikes me there is injustice in that criticism of the internal medical man.

Dr. J. O. POLAK: The general surgeons have so covered the ground there is very little for a gynecologist to say. Again, as volvulus which is the only competing condition with Dr. Delatour's angulation, occurs four times more frequently in men than in women, it leaves me less to say. It seems possible, from considering the anatomical relations of the sigmoid in the aged, that the condition described, or the deductions made rather, by Dr. Delatour, could exist. We know that volvulus occurs more frequently in old age, we know that the tissues are particularly lax, we know that naturally there is a very sharp angle between the sigmoid and the rectum, and there is a short attachment, and it is reasonable to suppose that such a condition could be possible, though from the history of his cases I cannot see that he has brought out anything that would point more distinctly to that than to what Drs. Bristow and Fowler suggested—a partial volvulus of the gut.

Angulation of the sigmoid is more common, I think, as a result of pelvic inflammations and as a post-operative condition than it is of the conditions that the doctor has described. There is no question, it seems to me, that a large number of post-operative, particularly pelvic cases, suffer from more or less angulation of the sigmoid.

This has been demonstrated repeatedly by the use of the sigmoidoscope, finding a certain amount of fixation of the sigmoid. These cases frequently are constipated and have occasional colicky waves. The ordinary cathartics do not relieve but increase the colic; frequently an enema has to be given. These are post-operative cases, and what came up in my mind when I heard the doctor speak of this subject was, how can we prevent the angulation that occurs so frequently in such post-operative cases.

I think that the indiscriminate opening of the abdomen for minor conditions has brought about a large number of cases of more or less angulation in this region, because even if the abdomen is opened with the greatest care there is a certain amount of traumatism, we do get adhesions resulting, and these cases have constipation resulting that is relieved only by enemata and the like.

The point that Drs. Bristow, Butler and others have spoken of as to the treatment of these cases of intestinal obstruction is one that cannot be emphasized too much nor too often, and one point that Dr. Bristow touched upon, but has not emphasized enough, was the value of lavage in cases of intestinal obstruction, not only from the fact that if they have to have an anesthetic, it will diminish the vomiting, but by repeated lavage you diminish the tympany and tension and it makes the operation easy. Lavage and enemata solve a large number of these cases, I am sure; that is, cases of volvulus or angulation, as the doctor has reported.

The question comes up, Should we use cathartics in these cases? Medical men do it the first thing, frequently. On the other hand, if you are practicing surgery, the first thing you give is an enema, and you find that the general trend of surgical men is toward enemata and lavage rather than catharsis to relieve cases of obstipation of any sort.

Dr. J. FUHS: It would be of great interest to find a method to determine that there is such a condition as angulation. Certainly in other parts of the intestine such a condition does exist. There is no doubt such a condition exists from displacement of the pyloric end of the stomach. That obstruction exists and we do not suppose it comes from any ptosis. We think that that comes directly through the traction of the displaced stomach on its fixed points at the pylorus. That seems to be conceded. I think there are two fatal cases reported of angulation of the intestines through enteroptosis. Now, could we come nearer to diagnosing a condition like this

through some methods of examination, such as the inflation of the bowels (this is simply a suggestion), we could follow the course of the intestines. We could see whether the condition Dr. Butler described of a mesentery of the sigmoid exists; we could possibly demonstrate an angle. In a thin subject it is not difficult to follow the distended intestine. Of course, if the condition is acute, such as would require immediate surgical interference, we need not lose time with this kind of experiment, but if the case is not so acute perhaps something can be gained by inflation of the bowels. A volvulus does not materially alter the position of the intestines. An angulation would entirely alter their position.

Another condition that might have to be differentiated from angulation is the spasmodically contracted sigmoid and the spasmodically contracted lower part of the ascending colon. This condition I have come across a number of times, and it is so persistent that it leads to an obstruction of the bowels, perhaps not as complete as to require immediate surgical interference, but severe enough to require all the attention that one can possibly give to it medicinally.

The question of cathartics: I think that is a settled matter. If one suspects an obstruction of the bowels, if one does not think that this is simply an atony of the muscles or a mechanical condition that interferes with the evacuation of the bowel, surgeon or no surgeon, one would not use cathartics, and I think the cases Dr. Butler and the rest of the gentlemen referred to are the milder cases where one suspects an atony of the muscles.

The treatment by position that Dr. Delatour advises, it seems to me, is a treatment which would also help to differentiate. I cannot just exactly see how much benefit one would get in a condition outside of angulation from posture. A twisting of the bowels, except it be directly proven to be due to a displacement, can be relieved, and so much more angulation can be relieved by posture.

It is reasonable to assume such a condition can exist at that point, such as can exist at other points of the intestine where the conditions are just as favorable as at this point.

Dr. H. B. DELATOUR: I seem to be in the position of the majority against me.

The first thing I want to speak of is the proposition Dr. Bristow has advanced, following Greig Smith, to open the first coil of distended intestine that presents. I think if Dr. Bristow follows that device long enough, he will

regret it. If a coil of small intestine is picked up and opened and an artificial anus is made in the ileum, sometimes even close to the cæcum, more certainly if it is some distance from the cæcum, death will result from inanition in a very short time. That is not theory; that is proven fact. I have seen it occur in one case; I know of three other cases in this city where it occurred, where a coil of small intestine was opened and an artificial anus produced and death followed, not from the previous obstructive condition, but from inanition. It may do very well in many cases. It is pretty hard for me to stand up and speak against such a man as Greig Smith, but I am sure I am correct in that position, and I say it is not theory; it is fact.

It is well enough to say that seeing is believing, and that we must see this angulation in order to satisfy ourselves such a condition exists. I must acknowledge I have not seen it. It was a theory, and although I have waited since 1894 to get some evidence, it was not until this evidence was presented by Dr. Murray that I felt justified in bringing this subject before the Society. In Dr. Murray's case he says positively it was no twist, he says it was the descending colon, not the sigmoid, that was angulated. You may have noticed the title of the paper was angulation *at* the sigmoid, not *of* the sigmoid. In his case angulation occurred at the upper end of the sigmoid. The descending colon was immensely distended with fluid and dropped down, producing a distinct angle. Now I do not know where you want better evidence than that. There was a case seen by a man in whom we all have confidence as an observer, and I take Dr. Murray's word for it that there was an angulation at the time of autopsy.

In none of these cases, and one case existed for three weeks, did any free fluid escape from the operation wound. I must acknowledge I cannot say there was no fluid in the pelvis; there may have been some, but if the volvulus existed for three weeks, it seems to me that the circulation would have been disturbed to a sufficient degree to have produced a great deal of fluid in the abdominal cavity, and the abdomen was absolutely dry.

Supposing we operate on a case of intestinal obstruction, and we seek the point of trouble. In raising the intestine; in examining for it, of a sudden the obstruction is overcome; we have located it in the neighborhood of the sigmoid, and in raising it up the obstruction is overcome in our efforts to find the point of trouble. Now our

most natural conclusion is to follow the teaching that volvulus is the common cause, and without having seen the volvulus, you put the case down as one of volulus. That is possible and must be acknowledged by the gentlemen who have discussed this paper for a man to have lifted up an angulated portion of the intestine, and because the obstruction has gone away, to feel he had overcome a condition of volvulus when no such condition has existed.

We have to work on theories in medicine to a great extent. I have produced a theory, and I feel in Dr. Murray's case I had some evidence to warrant it.

In order to prove that it is possible, that what I say about volvulus not existing may happen, I would like to quote from a description of an operation by Reese in his paper on "Volvulus of the Sigmoid as a Result of Meso-Sigmoiditis." He operated on his case with a diagnosis of volvulus in his mind; he went to the point of trouble; he found the sigmoid, and here are his words:

"The sigmoid was not twisted when the abdomen was opened, but a slight impulse given to the upper half of it sufficed to make it drop upon the lower half."

He includes that as a case of volvulus. When he opened the abdomen the obstruction still existed, but in his own description of the case he says, there was no twist at that time, but that he could produce it. To my mind there is no more evidence that he had volvulus in that case than there is evidence in my three cases that I had angulation.

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## THE BROOKLYN GYNECOLOGICAL SOCIETY.

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STATED MEETING, NOVEMBER 11, 1904.

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The President, W. J. CORCORAN, M.D., in the Chair.

REPORT OF CASE: OVARIAN CYST WITH TWISTED PEDICLE; SPECIMEN.

Dr. F. J. SHOOP: Mrs. M. H. T., multipara, aged 60, has suffered several years from gaseous indigestion; is very obese. One sister has a uterine fibroma, another sister died 30 years ago after a second laparotomy for ovarian tumor. Eight months ago this patient was seen by Dr. L. G.

Langstaff and myself for the relief of severe pain in right side, which was diagnosed as intestinal colic after the pain had subsided sufficiently to permit of the necessary palpation to exclude appendicitis and movable kidney. No tumor was then discoverable above the pelvic brim, but thinking from the history there might be some ovarian trouble she was requested to call at my office later for examination; this she did not do. On July 3d she was seized with acute pain on the left side and syncope. Dr. Skelton who was first called in, found a large tumor in the abdomen extending to the umbilicus and lying over to the left side.

Diagnosis: Ovarian cyst and twisted pedicle. I saw the case a few days later and concurred in the diagnosis, advising operation.

The lower portion of the tumor mass was hard enough to suggest fibroma of the uterus complicating. During the two weeks intervening between that time and the time of the operation the size of the tumor had perceptibly increased. July 23d I removed the specimen here shown, which proved to be a right ovarian cyst and the pedicle was twisted as you see; the cyst contained 8 pints of dark bloody fluid and blood-clots, showing there had been a continuing hemorrhage into the cyst; the base of the cyst is thickened and was what led me to think that part was a uterine fibroid; the uterus was twisted and jammed down forward, just behind the symphysis. There were two very small fibromata which were excised, leaving the uterus because of dense adhesions low down on the left side and leaving the left ovary which was in a state of senile atrophy.

She suffered more from the stomach and intestinal troubles than from the immediate results of the operation, making a slow but complete recovery.

Dr. J. O. POLAK: It is interesting to note how these cases of ovarian cyst with twisted pedicle will set up a new circulation. I saw a woman this fall with an ovarian cyst who, one and a half years ago was seized with very sharp pain in her left side. Prior to this it was known that she had a small cyst, the size of an orange. She went to bed for a few days and the pain quieted down. She then got up and went to work again, and has had several repetitions of the attack during the one and a half years prior to coming into the hospital.

At the time she came into the hospital she presented a condition about as follows: The uterus was prolapsed and pushed well forward below

the pubis; the cervix was at the vulva. The cul-de-sac was filled with a large tumor that seemed continuous with the uterus, and it was exquisitely sensitive. When lying on her back she was comparatively comfortable, but when on her feet she complained of intense and constant backache and bearing down. The diagnosis of incarcerated ovarian cyst was made, but not of a twisted pedicle. This history of previous pain which I have given you was elicited subsequently from her physician and herself. The conditions found at operation was an incarcerated cyst with a complete twist of the pedicle. The circulation in the pedicle was absolutely cut off by the twist and the tumor getting its circulation from its pelvic adhesions. It impressed me very much as showing how these tumors can go along, even when they have a contents of blood, as this particular cyst showed, and get their circulation from the contiguous organs when their own blood supply is absolutely cut off by a twisting of the natural channels.

Dr. C. R. HYDE: I might digress a little and say that apropos this particular case where an ovarian cyst can receive its blood supply from outside sources we can also have that in other tumors. I remember a case Dr. Bache Emmett had at the Woman's Hospital, in which there were several small fibroids about the size of a pear distributed all through the intestines. These had sloughed off from the mother fibroid and were receiving their nourishment entirely from the omentum and also from the intestine itself. They were apparently in a very good state of preservation at the time of operation.

Dr. W. E. BUTLER: All these points have come to Dr. Hyde personally, and he has been able to treat the subject with a good deal of pleasure and profit to us. The backache is certainly the *bête noire* after operation, and that has been partially overcome by raising the hollow of the back during operation. Every time we put our patient in the lithotomy position we have a stretching of the spinal column, the arch is broken, the curve of the back is practically straightened out, and we get this stretching of the ligaments Dr. Hyde speaks of.

The question of morphine that Dr. Keenan speaks of to emphasize Dr. Hyde's paper is a good one. I think if we keep morphine away from patients they are better off. The bowels act in a better manner after the first 24 hours, and my custom has been to either give them a Kemp irrigation or a 1, 2, 3 enema, and follow that with some mild cathartic. The point of the

use of calomel and salts causing more gas I think is a very good one. The salts particularly seem to stir up the intestines.

I have had a very good experience with eser-in, but that subject has been pretty well threshed out at previous meetings.

Nausea following operation I think is largely relieved by the use of the stomach tube on the table or by giving a large glass of hot water to the patient as soon as possible. If they vomit it so much the better, the water absorbs the ether, the cause of the nausea, and is thrown out with the vomitus.

The use of the binder has been a rather anxious one for me. In using the lap suture by layers I have found patients do not require the binder, and instead of getting a new binder made by the Truss people, I have had patients wear the ordinary muslin binder we use in the hospital. They wear that for a month or six weeks, and then discard it unless there has been some separation of the wound.

The time of getting up, as Dr. Hyde says, is practically a movable period. One patient takes ten days; another three weeks. It depends on the condition of the patient at the time. Ries, of Chicago, gets them up in three or four days, and claims he has fine results. He may, but as Dr. Hyde said, the question whether that is good for every patient is a debatable one. If he has good support for the abdominal wall, perhaps he is not doing any harm although I cannot conceive of any device for the support of the abdominal wall which will take away that pull on the muscles. The large oblique muscles tend to pull the wound apart, and cannot be overcome with absolute certainty by the abdominal binder. The only way we can do it is by keeping the patient quiet, and if we give them the two weeks' rest Dr. Hyde speaks of, we have gotten good firm union in the scar and the best security for continuous of that union.

Dr. C. JEWETT: I would like to ask what preparation of eser-in the doctor has used? The cardiac depression may have been the result of impurities. There is another alkaloid of the calabar bean, calabarine, which Craig says is the more dangerous alkaloid. It is possible this may be included in some of the preparations of eser-in. In my own experience with eser-in in doses not exceeding 1-40th grain I have not observed any depression such as the doctor alludes to and I have used the drug continuously since May last.

It should be remembered that the antidote is atropin. Solutions of eser-in kept till they have

acquired a yellow color are well known to possess deadly properties. It is said of eserine and calabarine that one may be changed into the other by the action of dilute acids. My dose has not exceeded one-fortieth of a grain and has always been given hypodermically. The doctor lays great stress upon imperfect preparation of the patient as one of the causes of meteorism. There are more important causes than this. Most prominent are the exposure and handling of the peritoneum, and I take it in the average case the degree of tympany will be pretty nearly in proportion to the degree of insult to which the peritoneum is subjected. Meteorism from the latter cause is not wholly prevented by eserine.

It has been my custom for several years to give the patient a cathartic on the morning before operation, the bowels acting at night; the next morning they are washed out with an enema. I have not been accustomed to clear out the intestinal tract as thoroughly as formerly practised. The patient is given large quantities of water for a few days before operation, and takes it as soon after the operation as possible. I have had no more trouble with post-operative tympany under this practice than I did before, when the bowels were thoroughly cleared by repeated evacuations.

The eserine and the early use of laxatives to open the bowels after operation, I think, is good practice, not only for the prevention of tympany, but also for preventing adhesions. To wait four or five days before evacuating the bowels is, in most cases, I believe, a mistake. The patient is not only more comfortable with early evacuation and lessened distention, but she is safer from intestinal paresis and from adhesions.

With reference to backache: Backaches are common without operation in the subjects of pelvic disease. Is it not probable that the traumatism to which the peritoneum and other pelvic structures are exposed during operation is one cause of the pain. No doubt, too, it may often be wholly or in part a myalgia from chilling.

The binder is supposed to prevent hernia, to support the abdomen, to take off the strain from the wound, the tension upon the stitches. This it may do when properly applied only over the lower half of the abdomen, but if the binder extends up to the ensiform why should it not have the opposite effect?

Too much constriction of the entire abdomen may favor hernia. The excessive intra-abdominal tension maintained by a tight binder over the whole abdomen tends to force the abdominal con-

tents out in the direction of least resistance—through the wound. After operation, if all goes well, union is as strong as it ever will be at the end of about six weeks. As a rule there is no need of abdominal support after that period. If union has failed, the supporter will not remedy the trouble.

With regard to getting out of bed, the practice, as the doctor says, must vary somewhat with different cases. With patients that are doing well, I let them sit up in bed for meals, and for using the bedpan after the tenth day, and get out of bed on the fourteenth. Patients are usually kept in bed too long.

Dr. O. A. GORDON: I have just one suggestion to make in regard to the backache. I have noticed it is a custom in some hospitals in applying the dressings after operation to put the patient up on a block, and that certainly puts very great strain on the spinal column. I have noted in several instances (where that has been done) very severe backache.

In regard to the use of trional, the doctor suggests ten grain doses. I have seen three grains of trional have a very pleasing effect, and with some cases I think three grains will do as good work as ten or fifteen in others. I think it is better to give the smaller dose with instructions to repeat, if necessary.

Dr. JOSEPH F. TODD: In the aseptic post-operative convalescence three things engross the mind of the surgeon: firstly, the prevention of shock; secondly the condition of the skin, kidneys and intestine, and thirdly, the comfort of the patient.

Therapeutists advise us that morphine is stimulating constipating and diaphoretic as well as analgesic.

Accepting as correct this teaching, then morphine is the most useful post-operative drug which we possess. The stimulation will combat shock, the diaphoresis promote a healthy activity of the skin, a desirable thing of itself, and a relief to congested kidneys.

As an analgesic it will relieve the distress, discomfort, restlessness, or whatsoever name by which we may characterize the unrest after operation as no other drug will, and more quickly and consistently for medication by mouth will be rejected, as a rule, for 24 or 36 hours and certainly after that time in the great majority of cases morphine is unnecessary. We do not advocate large amount of morphine, but in sufficient quantity and frequency to relieve the symptoms indicated.



Concerning the locking up of the intestines, this has been in our experience an abuse of the remedy, the intestine or both. All are agreed that early evacuation of the bowel is advisable; the worse the case, i. e., the greater the number of adhesions and difficulties encountered, the earlier should the bowels be moved; and certainly when the intestine shows activity by discernible peristalsis whether painful or not, a cathartic, not an analgesic, is indicated by common sense.

Dr. J. O. POLAK: Post-operative vomiting and tympany are two points upon which I wish to speak. Most of us prepare our patients in about the same way, as Dr. Jewett has described. Some of us go a little further and keep our patients in bed for two days, preparing them on the second day before operation and giving them ichthyol or salol during the day just preceding operation, and an enema early in the morning before going on the table. During this time they are on a strained soup diet. Such a plan will give us well prepared intestines.

There are three points in the control of tympany and vomiting that have served me very well. I have recently learned how to use eserin. It should be used hypodermatically in 1-30 or 1-40 grain doses the moment the abdomen is opened, not when the patient is coming off the table, but before the intestines are handled. Immediately on the closure of the operation an enema or a pint of salt solution should be left in the bowel, and that same night an A. B. & S. pill should be given and in the morning an ordinary enema, and with such a combination as that we get the effect of eserin in its fullest.

Another point that has served me well has been the employment of lavage at the completion of the operation. Lavage certainly takes away with it a certain amount of the ether, which is eliminated out by the mucous membrane of the stomach, and it materially diminishes the post-operative vomiting. This lavage may be repeated, if necessary, and there is nothing I think that works better than lavage from above and colon migration from below, for gas distention. This combination not only causes cessation of the vomiting in many instances, but gives the patient comparative comfort.

One other thing we do not take into consideration enough is the posture of our patients. There is no question but that the use of the Fowler position does diminish the tendency to vomiting, and these patients also seem to handle their intestinal tracts better, so that lavage, the use of eserin, posture and the proper preparation of the

patient, with either enemata or colon irrigation, I think, will cover the management of distention and vomiting.

I am thoroughly in accord with the doctor that the indiscriminate use of morphine is objectionable, but I cannot see how the doctor is going to combat his shock better than with an initial dose of morphine soon after the operation, if the patient needs it. There is no question at all but that morphine is given much too often; in properly managed cases it is not necessary. I do not think that in my last sixty or eighty laparotomies that we have given more than a  $\frac{1}{4}$ , or possibly 3-8 grain of morphine to any abdominal section, unless that patient has shown symptoms of peritonitis. I find that morphine in 1-16 gr. every four hours in peritonitis is an extremely valuable adjuvant to such other treatment as we may institute. It acts as a most admirable stimulant, and at the same time where we have pus in the pelvis, or where pus collections have been broken up we know the small intestine disseminates infection, and if we quiet excessive peristalsis, as we can by 1-16 grain of morphine, we limit much of this dissemination or infection.

In regard to the binder: The doctor spoke of perineal straps. The Pomeroy people have for some time been making a binder without perineal straps. They employ the so-called Foster supporter, to the front of the binder, they use a garter arrangement, attached to the stockings. It holds the binder down without perineal straps and is very comfortable. Of course, men cannot use this device.

Dr. W. B. CHASE: This is a matter I have given a good deal of thought to during the last few months, and I am glad of the opportunity of listening to what Dr. Hyde has to say, especially as his remarks are the result of personal experience.

One of the first considerations after your patient is in bed is the question of position, and Dr. Polak has anticipated many things I would have said. When a good many patients are put in bed, the first thing done is to pull the pillow from under the head, the second not to allow the patient to draw up the knees, and the third not to allow them to separate the thighs, and nurses are put alongside the bed to enforce these restrictions. The surgeon should look after the comfort and safety of the patient after operation. The comfort of the patient is a considerable factor, and the keeping of the same position is deleterious to the patient. If any of you have suffered from flatulent colic, you will appreciate the comfort of

changed position. Take the tender abdomen and lower the head and you increase the tension of the abdominal muscles. If you give the patient a pillow, it is a source of comfort.

Unless the patient has suffered from peritonitis and the tissues are particularly friable, so that we fear tension will separate the opposing surfaces, or in the presence of marked peritonitis, I think the inclination of the patient to change position ought to have a good deal of consideration. I allow a nurse to shift a patient from one side to another, and in these cases of abdominal distention from accumulation of gas, the comfort of the shift of position is great indeed.

The question of backache: I fancy most of the backache is due to the abdominal distention and pressure on the spinal nerves and their distribution.

There is a condition which I have not seen reference made to, but it is not uncommon. In difficult operations in which your patient is in collapse and is covered with profound perspiration, what can you do for their comfort? It is very desirable to dry the skin and it is not easy to do, and I have used this device for years: Let the nurse take a piece of crockery or brick well heated, wrap it in a piece of linen cloth, and let that be passed under the clothing, avoiding the communication of the air and pass it over the skin of the body as far as possible. You get the stimulating effect of heat and you get the absorption of moisture and it is of great comfort to the patient.

The question of abdominal support is very important, and these later days I think surgeons make use of adhesive plaster to give support to the abdominal wall, but if distention comes on rapidly it is not long before the patient is made uncomfortable by the fact that adhesive plaster does not give. A method has been adopted after putting on the plasters of cutting them near the line of the median incision and putting in tape. After the abdomen becomes distended, by loosening the tape you can let out the strips.

I am in accord with the belief that you do not want to be in a hurry to feed the patient after laparotomy, and my custom is to give them nothing but hot water for the first 24 hours, and I believe there is nothing so valuable. If vomited, all right; if they retain it, so much the better. The patient comes to like the hot water, and it gives more relief than champagne or ice.

The question of anodynes: Formerly I almost excluded the use of anodynes after laparotomy, and later on when I had occasion to use them I

used codeine rather than morphine and with effects which seemed satisfactory. It has less power to relieve pain, but its constipating and disturbing effects are so much less that I think codeine is superior. Certainly morphine does arrest peristalsis to a considerable degree, but the hypodermic use of morphine will set up a condition of nausea and vomiting which may last for hours.

Another important question is that of opening the bowels, and I believe the error is waiting too long. I believe we feel safer when we find gas escapes from the intestinal tract and the bowels have moved, and I believe in getting a movement of the bowel. I rely on small enemas with a small amount of mag. sulph. added, repeated once in four to six hours until the bowels move. If they move in the first twelve hours it is better for the comfort of the patient and the anxiety of the surgeon.

Dr. F. J. SHOOP: With Dr. Baldwin I can say that patients have the backache after operations other than opening the abdomen. Yesterday I operated on a young man for varicocele, and he had as bad a backache as any abdominal case. Another thing that may have had an influence in causing backache is allowing the patient to lie in the cloths for an hour or so that have become wet in the preliminary cleansing of wound and by irrigations during the operation. I would suggest for the support of the back a rubber air cushion partially blown up.

The use of hot water for arresting vomiting is valuable but I think we do not use enough at a time; a glassful will do better than a few teaspoonfuls at first then follow with smaller doses; it will help the patient to throw off the mucus in the stomach more easily, preventing much of the retching and straining, and not infrequently the first glassful is retained and no vomiting follows. In the Norwegian and other hospitals I find they are using lavage of the stomach immediately after a laparotomy before the patient becomes conscious, emptying it of the ether-laden mucus. In Boston they are using the glassful of hot water.

Dr. J. C. MACEVITT: I heard but a portion of Dr. Hyde's paper, but I can gather the tenor of his remarks from the discussion which has followed. The different points enunciated by Dr. Hyde have been taken up by the gentlemen in discussing the paper. The Doctor has given us his personal experience, and in doing this has opened a field for relation of personal views upon the factor of pain following operations.

Pain is a symptom following many laparotomies. The pain in the back we can attribute to three different causes. First, to the position of the patient upon the table. If the patient has been subjected to a long operation the tension of the spinal muscles will cause after-pain. We will have pain also following distention of the abdomen, tympany which, as a rule, comes on two or three days later. We also have pain from developing peritonitis, which is the most intensified of all. We also have pain from the stitches. That has been verified many times by the patient complaining of pain over the site of the wound. I have often thought that an improvement could be made upon our operating tables by having a cushion with an elevation to fit in the curvature of the spine. That in a sense would obviate the strain of the muscles of the spine.

While speaking of position, many of us elevate the foot of the bed. We do that for two reasons: first, its relation to the circulation; and, second, to the fact that we believe it lessens the amount of nausea. Very recently I had a patient that I had the lower portion of the bed quite well elevated for the purpose of preventing adhesions. It was a case in which the greater portion of the peritoneum covering the pelvis had been destroyed, and I was afraid that lying in a prone position there would be a possibility of adhesions. For that purpose I had the bed elevated. There was marked nausea. It persisted for two or three days, and she said to me, "I believe if the bed were lowered this nausea would disappear." Acting on the suggestion I had the bed lowered. Whether it was due to the change of position of the patient or whether it was a psychological effect I am unable to state, but the vomiting ceased. The elevation of the bed I believe only necessary where the patient has been subjected to a long etherization, or where we want to prevent adhesions.

Regarding the preparative stage, we are all in accord regarding the emptying of the intestinal tract, because when we open the abdomen we want to find the intestines in as flaccid a condition as possible. It helps us in our work. For that reason a cathartic within 12 or 14 hours before operation and an enema within six or eight hours is of very great advantage to the patient and the operator.

Regarding the question of cathartics after an operation, if we do an operation for some minor abdominal lesion, for instance an oophorectomy, we are not afraid of any adhesions, there is no

reason why our patient should be given a cathartic.

Regarding the use of morphine: One of the speakers spoke of morphine acting as a diaphoretic. I do not believe that to be the case. As a rule, after taking morphine, you will find a dry throat and tongue and thirst with a dry skin. Morphine can be given in cases where there is pain without any harm in my opinion, but I would not advise nor would I give morphine or an opiate of any character where the patient is suffering from a septic condition. It simply locks up the secretions, a condition that we certainly want to avoid, and we must be guided in our administration of morphine by the condition of the patient alone.

The binders: Most surgeons now use the adhesive strips. With the adhesive strips over the wound there is very little danger of distention except in tympany. I do not believe the tendency of the muscles is to stretch apart. I think after an operation, unless the intestines are inflated, if you watch the patient for a moment the muscular walls will practically fall together of themselves, and the danger is from vomiting and distention by gas, hence it is well always to anticipate trouble of that kind by opening the adhesive strips, and for the comfort of the patient use adhesive strips plus a binder, but in my opinion a binder is unnecessary.

The time of permitting a patient to get up: I believe it is better to keep the patient in bed longer than ten days except in cases where the wound was a short one of one or two inches, but if you have an incision of five or six inches you do not know from the superficial appearance of the wound just how much union of the fascia and muscles has taken place. Where the wound is of some extent I invariably keep the patient in bed from two to three weeks, permitting the patient after the twelfth to fourteenth day to sit up in bed, and if upon examination the appearances are indicative of strong union, I permit them to get up, but I never permit them to leave the hospital inside of three weeks. Possibly some of my patients have drifted to others who have found a hernia resulting, but in my personal experience I have never had a hernia in my work. I simply say this to emphasize the fact the longer you keep the patient in bed, the better. You certainly can do no harm.

Dr. C. R. HYDE: I thank the gentlemen for the discussion, which has taken a wider turn than the scope of my paper. I want to correct an impression; I was not writing my life history

as a laparotomy patient, but there were a few points that appealed to me very strongly. I particularly referred in this paper to what we might call an uneventful convalescence where we have patients who recover nicely except for this backache and distention.

As regards Dr. Jewett's question in respect to the preparation of eserin. I used Sharpe & Dohme's preparation, the hypodermic tablet, 1-40 grain.

As regards Dr. Butler's remark about the non-support of the binder. If Dr. Butler will take one of the ordinary straight front binders and have it applied, as it can only be applied, by pulling these rubber strips as tightly as possible, he will notice the very confined effect it gives and also the firm support, so much so that if the binder is taken off for two or three days it will be found that its absence causes an uneasy feeling in the wound. That feeling is relieved if the binder is again re-applied.

As regards backache being due to an insult to the peritoneum in abdominal and pelvic operations, I can simply say this. I will take my own case. From the time I took my first whiff of gas to the time I was brought back to my bed was between 15 and 16 minutes. The operation was eight minutes long. There was little insult to the peritoneum, there was little handling of the intestines, but I can say that my backache was the limit. I resolved that if my next laparotomy had a backache I would attend to that more than anything else. A nurse suggested the iodine and asked me to try it. It relieved the pain almost immediately. I have tried medication too. In my own case the only thing I could do was to support the arch of the back with the fists under it. Hot bags gave some relief, but you do not appreciate the severity of this backache until you go through it. If the backache were relieved for one hour it would be different, but it is continuous from the time it starts until it dies out, and it dies out very slowly indeed. You cannot sleep or rest until the backache disappears.

My position on morphia was misunderstood. I often give morphine in shock, but I was referring to aseptic convalescent cases, the pain being due entirely to gas or to backache. My position in my paper is that at that time I did not believe in giving morphine, and I had particular reference to the house surgeons. I have heard house surgeons give orders to use morphine to relieve simple backache or pain from abdominal distension, and that is what I protest against.

I think Dr. Chase's remarks on change of position in bed are excellent. It is pretty hard to lie on the back, and you get a great deal of comfort in distention if you can change the position from one side to the other, provided the condition of the patient will allow of it.

In regard to backache being caused entirely by pelvic operations: Only recently I removed a breast. It was not a very long operation, but that patient had a backache for three days, which was an extremely severe one. It started in quite severe and the iodine did give relief. It quieted down almost absolutely, but started up again. That is the kind of backache I do not understand, a backache appearing when the peritoneal cavity has not been opened. I think it is due to the table. Some patients do not have it at all.

There is one point I left out in my paper, and that is the wetting a patient receives while on the operating table from very free wound irrigations. Everything gets pretty well soaked. The patients are fairly well dried off in the operating room, but, as a rule, I do not think they are dried off enough. Then the patient is put to bed with a wet night gown, and, in addition, is perspiring quite freely. It necessitates a change of night gown two or three times within the first 16 or 18 hours. That is the time I believe a patient can get a cold. The surgeon should tell the nurse to watch for any signs of perspiring of the patient and see that the night gown is changed. We have enough bronchitis following operations after long anesthesia, and if we can cut out anything at all which will ward off a bronchitis as the wet nightgown, so much the better. I believe we can do this by instructing the operating room nurse to be particular in wiping off the patient well before leaving the operating room, and also instructing the nurse in the ward to see that the patient's night gown is changed every time this wetting or perspiring occurs.

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## BROOKLYN MEDICAL SOCIETY.

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SEPTEMBER, 1904.

The Ninety-fifth Regular Monthly Meeting of the Brooklyn Medical Society was held on the evening of Friday, September 16, 1904.

The President, Dr. WM. B. BRADER, in the Chair.

Dr. JACOB FUHS read "The History and Comments on a Case of Primary Dilatation of the Stomach." Among other things, he said that case was that of a man 20 years old. Family history good, had neurotic taint. Five years ago complained of pain after meals and vomited food. Since he has not been entirely well and deficiency in swallowing gradually increased. Was forced to push food down œsophagus. On examination was tall and long chested. Stomach was displaced downward. Had area of dullness of right side of spine. On introduction of tube, 14 inches, about one pint of a colorless fluid was removed after test meal, which showed a trace of acidity due to lactic acid. The tube being further introduced into the stomach, brought forth 100 c. c. of a mixture of fluids and solids, yellow in color and containing an excess of hydrochloric acid. On second examination, one hour after test meal, the tube was inserted 18 inches before any fluid escaped. On further introduction, 300 c. c. was removed from the œsophagus and 200 c. c. from the stomach, the tube not being removed while obtaining both specimens.

An X-ray exposure, taken at the German Hospital after swallowing a tumbler of water in which bismuth subnitrate was held in suspension, showed a decided shadow to the right of vertebra, extending the whole length of the canal.

The probable diagnosis, he said, was dilatation of the œsophagus. Having passed filiform bougies, increasing in size, a 27 French having passed readily, he excluded obstruction. Malignant disease and diverticule he also excluded. Because he had obtained food from the stomach and fluid from the œsophagus and because of the absence of any obstruction at the cardiac, he determined on the diagnosis.

Dr. BRUSH, in discussing the case, viewed the etiology from a nervous standpoint, and gave his opinion of what might be primary cause of the trouble.

Dr. H. E. ROGERS asked Dr. Fuhs if it were not possible for this dilatation of the œsophagus to have been caused by an ulcer in the wall of the stomach in the region of the cardiac orifice, which would cause a spasm, thereby causing a closure of the entrance to the stomach, just the same as you have a pylorospasm in other cases of ulcer of the stomach located in other parts of the stomach, particularly in the region of the pylorus.

Dr. Fuhs said that it was possible.

Paper: "Sterile Water Anesthesia in the Treatment of Hemorrhoids." Dr. L. M. Bodkin.

Discussion by Drs. Polak, Rankin, Sullivan, Hayman, Lee and Brader.

HUGH E. ROGERS, M.D.,  
Rec. Sec.

The Ninety-sixth Regular Monthly Meeting of the Brooklyn Medical Society was held on the evening of Friday, October 21, 1904.

The President, Dr. WM. B. BRADER, in the Chair.

#### CLINICAL SECTION.

Dr. James C. Kennedy, Chairman.

Dr. James C. Kennedy presented a number of very interesting cases. The first was that of a case of spindle celled sarcoma of the ovary. He commented on the rarity of this form of sarcoma, and referred to cases coming under his observation of sarcoma of the uterus and the breast. His second case was the presentation of a renal calculus weighing 680 grains. This was found partly in the kidney substance and partly in the pelvis of the kidney. The case presented a hydronephrosis with a complicating ureteritis. Operation revealed a pus sac. He saw the necessity for radical treatment and performed a nephrectomy. He urged the importance of early diagnosis in these cases to prevent complications and the necessity for radical treatment.

3D CASE.—Three vesical calculi weighing in all 480 grains, which he removed by the suprapubic method from a male subject.

Paper: "The Fallacy of Growing Pains." Dr. R. W. Westbrook.

Dr. Westbrook urged the great importance of early diagnosis in tubercular and rheumatic lesions, emphasizing especially tubercular joint lesions and rheumatic endocarditis.

A general discussion followed.

HUGH E. ROGERS, M.D.,  
Rec. Sec.

The Ninety-seventh Regular Monthly Meeting of the Brooklyn Medical Society was held on the evening of Friday, November 18, 1904.

The President, Dr. WILLIAM B. BRADER, in the Chair.

Minutes of the previous meeting read and adopted.

## CLINICAL SECTION.

1. Dr. C. J. SEARCH gave an interesting history and presented a case of lupus which he had treated with the X-rays.

2. Dr. J. F. HALLER presented the patient and read the history of an exquisite case of arthritis deformans with progressive calcification. After reviewing the etiology and the pathology in a concise and still exhaustive manner he gave the following history: Patient a woman 32 years old. Married for 6 years and has a child, a healthy boy of 5. Family history negative except that her mother had died at the age of 63 of cancer of the stomach.

Patient dates present trouble back to five years ago, at the birth of her child. Did not menstruate for one year after birth of child, due to no apparent cause. Was nervous and anemic. Signs of present disease appeared three and a half years ago, when her left knee began to ache and swell, her hand on the same side became similarly affected. Then right hand, and gradually every joint in her body became invaded. Was admitted to the Brooklyn Hospital in July, 1903, and remained until February, 1904. During that time she had X-ray treatment several times a week for about three months. Had no effect on the disease, no improvement being manifested. She was given every drug on the calendar, including massage and baths. She obtained no relief and disease progressed steadily onward. When quiet she suffers little pain. Appetite and digestion fairly good. Is constipated. Pulse is 130 and temperature 100 most of the time. Sleepless. Of late receives opiates, which she demands in increasing doses. On inspection you can readily see that her spine, her jaw and every other joint in her body are becoming rigid. The muscles are wasted and flabby. In closing, the doctor said that it was unfortunate that there was no relief for these cases.

3. Dr. A. H. BRUNDAGE presented a case of fissured tongue, which he said was probably of specific origin.

## PROGRAM.

Paper: "Cholecystitis, its Diagnosis and Treatment." By John B. Deaver, M.D., of Philadelphia.

Paper: "The Pathology of Cholecystitis." By Dr. Geo. P. Müller, of Philadelphia.

Rising vote of thanks was tendered to Dr. Deaver and to Dr. Müller for their excellent contributions to this most interesting subject.

HUGH EDWARD ROGERS, M.D.,  
Recording Secretary.

## THE MEDICAL LIBRARY ASSOCIATION OF BROOKLYN.

The Annual Meeting of this association was held at the Library Building on the evening of December 28th. Dr. F. E. West, President, in the chair. The report of the Treasurer, Dr. J. C. McEvitt, showed that \$300 had been received by him during the year, which with the balance remaining from the previous year of \$168.27, made a total of \$468.27 for the purposes of the Association available during the year now brought to a close. From this sum \$171.70 has been expended in subscriptions for foreign medical periodicals, including the following:

Fraenkel's *Archiv f. Laryngologie*, Berlin.  
*Practitioner*, London.

Maly's *Jahresbericht f. Thiere Chemie*.  
*Gazette des Hôpitaux*.

*Archiv f. Dermatologie*.

*Archiv f. Anatomie*.

*Archiv f. Physiologie*.

*Archiv f. Mikroskopische Anatomie*.

*Centralblatt f. d. Medicinische Wissenschaften*.  
*Therapeutische Monatshifte*.

*Zeitschrift f. Klinische Medicin*.

*Sammlung Klinische Vorträge*.

*Fortschritte der Medizin*.

*Correspondenz-Blatt f. d. Schweizer Aerzte*.

*Monatshifte f. Praktisch Dermatologie*.

*Annals de Dermatologie et de Syphiligraphie*.

*La Semaine Médicale*.

For binding journals in the Library \$61.10 has been expended.

An appropriation of \$142.50 has been placed at the disposal of the Librarian for the purchase of a valuable collection recently offered to the Library, comprising more than 2,000 bound and unbound volumes, and an equal number of pamphlets.

It was shown that for the further development of the Library as well as for the maintenance of the Library in its present condition, a much larger sum was needed, and the continuance of the help afforded by such an association was greatly to be desired.

Any member of the Medical Society of the County of Kings, and other persons, whose names should be approved by the Executive Committee of the Association, are eligible for membership in this Library Association. The annual dues of the Association are \$10. A fascicle will shortly be printed giving the aims of the Association, the names of the members and other information.

# Brooklyn Medical Journal.

WILLIAM C. BRAISLIN, M. D.  
Editor-in-Chief.

JAMES MCF. WINFIELD, M. D.  
WILLIAM S. HUBBARD, M. D.  
Associate Editors.

CLARENCE R. HYDE, M. D.  
Medical News Editor.

G. L. HARRINGTON,  
Business Manager.

All communications, books for review, articles for publication, and exchanges should be addressed BROOKLYN MEDICAL JOURNAL, Library of the Medical Society of the County of Kings, 1313 Bedford Avenue, Borough of Brooklyn, New York.

Authors desiring Reprints of their papers should state on the galley proof the number of Reprints desired.

Each contributor of an Original Article will receive five copies of the JOURNAL containing his article, on application at the Library of the Society, 1313 Bedford Avenue.

A limited number of black and white drawings to illustrate papers will be reproduced by the JOURNAL free of charge. Electrotypes will be furnished at cost.

Alterations of the proof will be charged to authors at the rate of sixty cents an hour, this being the printers' charge to the JOURNAL.

*Entered at Brooklyn, N. Y., post office as second-class matter.*

BROOKLYN-NEW YORK, FEBRUARY, 1905.

## ACUTE SEPTIC INFLAMMATIONS OF THE THROAT AND NECK.

The method of presenting all acute septic inflammations of the throat and neck as an entity was adopted first by Sir Felix Semon, and set forth in his recent address delivered at the Polhemus Clinic of this city and published in the January issue of the BROOKLYN MEDICAL JOURNAL. This seems by far the best method of treating this heretofore obscure chapter of medical science.

For the causes of its obscurity one has not far to seek. Its nomenclature has been misleading, its pathology has been little understood, its comparative rarity has prevented nearly all from having observed a broad series of cases during one brief lifetime; its onset when exhibited in its severest type is so rapid, so terror-inspiring, and so fatal, combining the symptoms, in rapid sequence, of obstruction of the air passages, sepsis and endocarditis, that the time given to studying them is, in these cases, necessarily brief. The types of slower development, in which the same sequence may occur more deliberately, are but little less confusing. Dr. Semon in his masterly treatise has rescued this disease from its misleading nomenclature and shown the inadequacy of such terms as œdema of the larynx or glottis, as applying to but a single phase of the disease. Dr. Semon has shown that septic inflammations of the throat, no matter whether located in the larynx, pharynx, fauces or tonsils or infected by

whatever virulent species of bacteria, constitute a disease which should be recognized, clinically, as an entity; clinically, it is a distinct disease and one fraught with danger, often with fatality, to the sufferer. He has shown in a way, never before so clearly demonstrated, the intimate relationship between acute septic inflammations of this region and acute inflammations of the endocardium, pericardium and other serous membranes of the mediastinum. This disease while rare is not by any means unknown in this city. Dr. Semon's suggestion as to the prompt use of antistreptococcic serum is, we believe, of great practical value, since the progress of the disease to a fatal termination is often extraordinarily rapid; also because a large proportion of cases are due to the invasion of the streptococcus and, further, because those other cases which are not due to this coccus are only amenable to symptomatic treatment.

An article on the same subject in the present number of this JOURNAL by Dr. Thomas R. French contains an entirely new suggestion in the treatment of this disease and broadens the therapeutic field of usefulness of adrenalin, or suprarenal extract.

In addition to the methods just mentioned, for combating the disease, we wish to urge the continued usefulness of one of the older procedures which we regard as valuable, whatever other methods may or may not be at the same time employed. We refer to the practise of *repeated* incisions or of deep scarifications of the mucous membrane at those sites where the œdema is evident. The incisions should be repeated at hourly or daily intervals, as may be required by the appearance of newly swollen areas. The incisions should be made, even when tracheotomy is also performed, and at as early a moment as possible. In the less urgent cases immediate relief from dyspnœa is obtained by this local blood-letting and by the escape of the pent-up serum. Most important of all, the drainage of the serous contents is accomplished before they have become purulent, and the spread of the infection into the mediastinal cavity may thus be prevented.

This method of treatment, alone, and also combined with other measures, has been practised in Brooklyn with a considerable measure of success, owing in great part to its advocacy by Dr. George MacNaughton. Dr. MacNaughton several years ago performed intubations very frequently, and during that period saw two cases autopsied which died of septic endocar-



ditis secondary to acute septic inflammation of the larynx. He was impressed by the fact that the disease might be controlled by the early evacuation of the infectious pus, while it was still local in the larynx and before it had burrowed downward into the mediastinum, and as a means to this end, recommended deep and repeated scarifications of the swollen areas of mucous membrane as they consecutively appear.

In the *BROOKLYN MEDICAL JOURNAL*, August, 1896, there appeared a very comprehensive and valuable paper on this subject by Dr. Walter C. Wood, entitled "Clinical Observations on Suppuration in the Neck," well worth re-reading.

Dr. Jobson Horne of London, in the *Journal of Laryngology, Rhinology and Otology*, has lately demonstrated the track by which infection reached the heart in a case of acute septic inflammation of the throat. Dr. Semon has felicitously elaborated the subject in his clear and forceful treatise.

We cannot do other than express our satisfaction that the elucidation of this subject has been undertaken by so able and distinguished a member of the medical profession as is our late guest. That his paper was needed is attested by the fact that text-books on diseases of the throat have failed to present this subject in its entirety, for the reason that the knowledge of its relationship to systemic diseases has heretofore been lacking or of an extremely nebulous character.

#### BROOKLYN MEDICAL LIBRARY ASSOCIATION.

The work that has been and is being done by the Medical Library Association of Brooklyn seems to be little known among the members of the medical profession of the city. Since its inception in March, 1903, the ideas for the promulgation of which it was formed have been slowly elaborated, until it is at present on a good working basis. These ideas may be summed up in the phrase "Co-worker and ally of the Medical Society of the County of Kings." The membership consists of about thirty physicians and laymen.

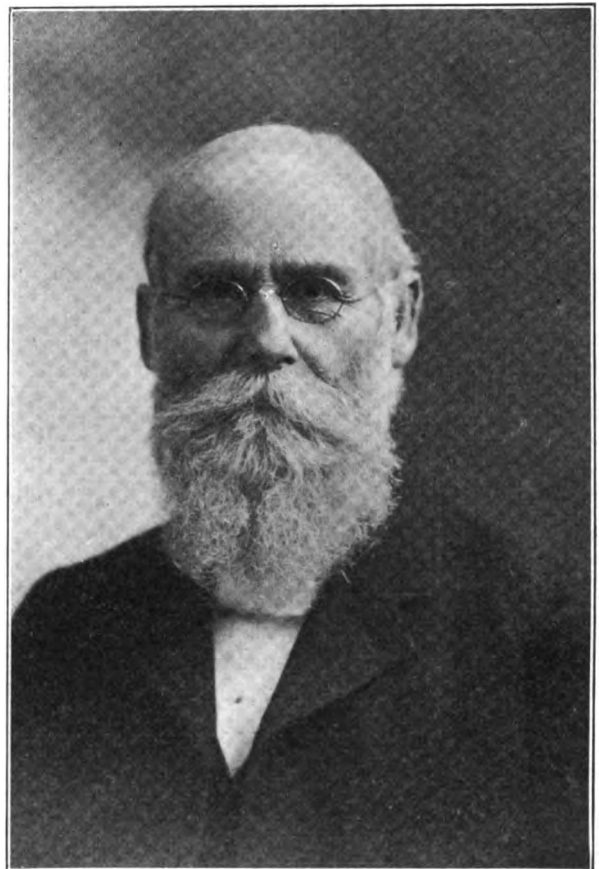
Each member pays \$10 dues each year, which yields an amount of money, small, but more and more needed each year, and not at present available from the funds of the Library. The Association is at present subscribing to a list of foreign journals for the Society Library not otherwise obtainable. In June, 1903, the sum of \$150 was presented to the Society to be used for the benefit

of the Library. During 1904 the Association purchased and presented to the Library through the Ladd Book Co., bound and unbound volumes approximating 2,000 in number, and the same number of pamphlets, all having been originally the bulk of the library of the late Dr. A. N. Bell. Among these are many on hygiene which are only known to exist elsewhere in the Surgeon-General's library at Washington.

### OBITUARIES.

#### NELSON LUTHER NORTH, M. D.

Nelson Luther North, one of the oldest practitioners of the City of Brooklyn, died on November 23, 1904. He was born at Elba, Greene County, N. Y. April 20, 1830. He was the son of Czar Peter North, of Farmington, Conn., and



NELSON LUTHER NORTH, M. D.

Epeline Holcomb, of Elba, N. Y., and grandson of Guy North, of Elba, N. Y. Dr. North married on June 20, 1856, Mrs. Susannah Brown, daughter of Philo Kennedy, of Brooklyn, N. Y. The children born of this marriage were Jeremiah A., Willard Parker, Abrota S., and Nelson L. North, Jr., M.D.

He received his early education at the district schools of Niagara County, N. Y., and the Wilson College Institute, New York, and began the study of medicine under the direction of William Budd Gould, M.D., of Lockport, N. Y., graduating M.D. from the College of Physicians and Surgeons, New York, in 1854, locating in the City of Brooklyn, where he remained until his death, with the exception of two years, 1869-71, at which time he was in Aiken, S. C., owing to ill health.

Dr. North was surgeon to the Board of Enrollment, third Congressional district, in 1863; surgeon of the Metropolitan Police, 1860-69; attending physician Williamsburg Dispensary, 1854-65; Industrial Home, 1871; surgeon M. E. Hospital and the Brooklyn Methodist Home for the Aged.

He was a member of the Medical Society, County of Kings, from 1859-1905; censor in 1861-62; New York Academy of Medicine, 1864-1904; Kings County Medical Association, 1887-1904; New York State Medical Association, 1884-1904; New York Physicians' Mutual Aid Association, 1880-1905; New York Society for the Relief of Widows and Orphans of Medical Men, 1868-1905, and the Medical Society of Williamsburg, of which he was president, in 1868.

Dr. North published the following papers:  
Use of Sulphuric Acid in Cholera and Allied

|   |      |
|---|------|
| Diseases. ....  | 1855 |
| Prophylactics in Zymotic Diseases. ....                                   | 1868 |
| Scarlet Fever and its Prevention. ....                                    | 1868 |
| Resumé of Epidemic Cholera. ....  | 1865 |
| Theory of Causes and Course of Treatment<br>of Inflammation. ....         | 1867 |
| The Therapy of the Chlorides. ....  | 1885 |
| Small-pox in Brooklyn, N. Y. ....   | 1887 |
| Surgical Aid in the Treatment of Pulmonary<br>Disease. ....               | 1888 |
| Tuberculosis. ....  | 1890 |
| Dislocation of the Inferior Maxilla: Re-<br>duced after Eighty Days. .... | 1889 |
| Lactic Acid Locally Applied in Cancer. ....                               | 1893 |

#### WILLIAM GILFILLAN, M. D.

After fifty years in the practice of medicine Dr. Gilfillan died on December 18, 1904. He was born in Londonderry, County Derry, Ireland, May 25, 1835. His father was Alexander Gilfillan, M.D., surgeon in the Royal Navy, and his mother, Eliza M. Cutehen. On November 15, 1859, he married Miss Carrie M. Ladd, of Throgg's Neck, L. I.; his children are, Fanny,



WILLIAM GILFILLAN, M. D.

wife of Albert Van Wyck, and William Whitehead Gilfillan, M.D., of New York City.

His early education was received in his native town, and his medical education was under the direction of Prof. James Syme, graduating at the University of Edinburgh in 1855. He became a member of the Royal College of Surgeons of Edinburgh during the years 1854-55. He was interne in the Royal Infirmary. This was followed by a ten months' tour of the Continent of Europe as physician to the Marchioness of Bute and her son. On his return he accepted the position of surgeon to the Cunard Line of steamers. Locating in St. Louis Mo., in 1858, in 1860 he came to Brooklyn, where he remained in the practice of medicine until his death.

During his professional life he was visiting surgeon to the Long Island College Hospital, 1861-67, and consulting surgeon to St. John's Hospital. During the years 1864-66, Professor of Therapeutics and Materia Medica; and 1867-68, Professor of Surgical Anatomy at the Long Island College Hospital.

Dr. Gilfillan was a member of the Medical Society, County of Kings, from 1864-1904; New York Academy of Medicine, 1863-1904, and an

honorary member of the Long Island College Hospital Alumni Association. He was also a member of the Long Island Historical Society and the Hamilton Club.

He has contributed the following papers:

- 1862—Tracheotomy in Diphtheria.
- 1862—Polypus Uteri and its Treatment.
- 1862—Report of Cases on Amputation of the Leg, Fracture of the Skull with Depression, Heart Disease.
- 1881—Ante- and Post-Partum Hemorrhage.

Dr. Gilfillan in 1855 received the first senior prize in the practice of medicine and the second prize in surgery.

#### HENRY CORNELIUS McLEAN, A. M., M. D.

Henry Cornelius McLean was born in the city of Newburg, N. Y., on June 26, 1850, and died in Brooklyn, N. Y., December 23, 1904. His father was Cornelius McLean and his mother Susan O'Neil, of Belfast, Ireland.

Dr. McLean was married on April 24, 1883, to Miss Catherine V. Maher, of Brooklyn, N. Y. She died March 14, 1896. He again married on November 9, 1898, Miss Margaret McConville, of Brooklyn, N. Y. The children are Marie and Hewey Garardus McLean.

His early education was received in the private schools of Newburg, graduating at Brown's Academy in 1865; Manhattan College, A.B., 1869; A.M., 1873; University, City of New York, Medical Department M.D., 1873. He served as ambulance surgeon, stationed at Brooklyn, E. D., in 1873, and interne in the Kings County Hospital, 1874-75, entering upon the practice of medicine in this city in the latter year. During his professional life he was physician to the Brooklyn Baseball Club, Kings County Hospital, St. Mary's Maternity, Infant Hospital and Central Dispensary. He was a member of the Medical Society, County of Kings, 1878-1904; New York State Medical Society, 1898-1904; the Associated Physicians of Long Island, 1899-1904; Brooklyn Pediatric Society, 1902-04, and the New York Physicians' Mutual Aid Association. In 1896 he presented a paper on Scorbutus in Infants. From 1886 to 1898 he was a member of the Brooklyn Board of Education, a member of the Young Men's Democratic, Columbian, Carlton and Marine and Field Clubs; Fort Greene Council, R. A.; St. Monica's Council, C. B. L., and St. Augustine's R. C. Church.

WILLIAM SCHROEDER, M.D.,  
Chairman of Historical Committee.

## MEDICAL NEWS.

EDITED BY CLARENCE REGINALD HYDE, M.D.

*It is earnestly hoped that all members of the profession possessing news concerning themselves or their friends, which would interest others, will communicate the same to the News Editor before the 9th of each month. Items for this department should be sent promptly to Clarence Reginald Hyde, M.D., 126 Joralemon Street.*

Dr. Constantine F. McGuire has removed to 298 Union Street.

It is with deep regret that the death is announced of Mrs. J. Bion Bogart, wife of Dr. J. Bion Bogart, of 463 Clinton Avenue, on Friday, January 13th. The JOURNAL extends its sympathy to Dr. Bogart.

Medical Director Henry M. Wells, U. S. Navy, died suddenly at his home, January 12th.

The Royal Victoria Hospital, Montreal, Canada, caught fire recently and was damaged to the extent of \$30,000. As the hospital was built on the modern plan of two isolated wings and a central administration building, the fire was confined to the central block, in which it originally started. This block was not occupied by any patients.

The Surgeon-General of the U. S. Army has notified the Army Medical Department that poultices have no place in modern therapeutics, and has accordingly issued an order to drop linseed and linseed meal from Army medicines. He claims that all the good results from poultices are obtained in a more cleanly way by using wet hot compresses. The old fashioned, time-honored poultices are thus stamped as obsolete. *Tempora mutantur!*

A farewell reception for Dr. Rudolph B. Tensler, in charge of St. Luke's Hospital, Tokio, Japan, was given at the home of Mrs. Jonathan Thoem, No. 1028 Fifth Avenue. Dr. Tensler returned to this country for funds to enlarge the work of the hospital, which is self-supporting and owes its success to Dr. Tensler's plan of receiving private patients from the noble and merchant classes, besides charity patients. Japan, unlike America, accepts reform imposed from above, and St. Luke's is indorsed by the Japanese Government. With the present facilities of the hospital, it is necessary to turn away five out of every six applicants. Sixty

per cent. of the Japanese doctors use the old Chinese methods.

Dr. L. E. Wilson, of Baltimore, was awakened one stormy night recently by a man who declared the doctor's services were wanted three miles out in the country. Just before the doctor called up the stable for his horse the visitor asked what the charge would be. "Three dollars," was the reply. When the house containing the supposed patient was reached the man alighted first, and, handing the doctor \$3, remarked: "You needn't come in doctor; you see it is this way: No hackman would drive me out for less than \$6, and it occurred to me that your horse might need exercise."

On January 26th, at Memorial Hall, a concert was given for the benefit of the Long Island College Hospital Graduate Nurses' Registry, to aid in furnishing more completely the club rooms and liquidating all outstanding indebtedness. The concert was entirely musical in its scope, and an exceedingly attractive program was rendered by well-known soloists.

William T. Wardwell, ex-treasurer of the Standard Oil Company, and president of the New York Red Cross Hospital, has promised not less than \$100,000 for a site for a Red Cross hospital in Manhattan Borough. A building will be erected with all the latest and most modern improvements. Private and charitable cases will be received, and the hospital will maintain a training school for Red Cross nurses. Owing to the necessity of the erection of a hospital in the upper part of New York, Mr. Wardwell has determined to erect the new building near Fort George.

Dr. Emily Dunning, well known as the first woman surgeon who ever rode on the back of an ambulance as a regularly appointed ambulance surgeon, was recently married to Dr. Benjamin S. Barringer, ex-house surgeon of the New York Hospital. Dr. Dunning has just finished her term as house surgeon of Gouverneur Hospital. When ambulance surgeon, her first call was to a longshoreman with an injured foot. So much comment did her appearance as an ambulance surgeon excite, that the police had to call out the reserves of the Oak Street Station to handle the crowd, which had grown too anxious to see Dr. Dunning work.

In a bulletin issued by the Census Bureau it is shown that men are in the majority in the United States to the extent of 216 in each 10,000 of the

population. In 1890, the excess was 242. This excess of males, however, is offset to some extent by the longer age of females.

The recent death of Dr. William M. L. Fiske, of 1140 Dean Street, from a heart lesion, has removed one of the best and widest known of homeopathic physicians. Dr. Fiske was born in 1847, and was graduated from Bellevue Medical College in 1863, and again in 1864 from the New York Homeopathic College. He was at the time of his death associated with nearly all of the medical institutions of his school in the city as surgeon, medical director, trustee, and adviser. He was one of the few physicians to receive the honorary degree of M. D. from the State Board of Regents.

Dr. Alonzo A. Sylvester, the American who for twenty years was Emperor William's dentist, shot and killed himself on January 10 in the Thiergarten, Berlin. He was a close personal friend of the Kaiser's, and had at one time accumulated a large fortune from his practice, which in later years, however, was squandered. He was the recipient of many decorations and honors, and possessed a wonderful collection of rare and costly curios, silver and linen. He was a well-known figure in Berlin, and in spite of his German associations, prided himself on his American birth, and flew the stars and stripes on his housetop daily. Emperor William, it is reported, always saluted the American flag on passing the dentist's residence. Dr. Sylvester gradually lost his practice through high living, wine and gaming. His daughter was educated at one of our western colleges, and at present is studying medicine in a college in San Francisco, having decided to fit herself for self support when her father met with reverses.

Plans have been adopted for the completion of the main or administration building of Seney Hospital. The work will start soon, and will not end till the hospital has been completed according to the plans of its founder, the late George I. Seney. It will then be the largest and best equipped hospital in this borough, and its present capacity will be doubled. Two hundred thousand dollars have yet to be raised, and the hospital authorities are making strenuous endeavors to procure this amount in the near future.

As the recent automobile show at Madison Square Garden many Brooklyn physicians were present inspecting the latest models. The coming spring will doubtless see the automobile extensively used by our doctors.

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No. 3.

## ORIGINAL ARTICLES.

### SOME FORMS OF DYSPNOEA AND THEIR TREATMENT.\*

BY JOHN A. MC CORKLE, M.D.

Dyspnœa is characterized by difficult breathing, and by the laity is called shortness of breath.

The effort of breathing may be most distressing, or entirely painless.

The sense of air hunger is always distressing and may be painful. In the consideration of any symptom, it must be borne in mind that most symptoms are conservative in their action.

In the study of symptomatology it will be found that many symptoms tend to sustain the vital powers and prolong life until the organism has had an opportunity to eliminate the causal factor, or until it becomes inured to the presence of disease, or the affection has had time to run its course and end by the law of limitation.

Dropsy, which is so frequently associated with dyspnœa, is, to some extent, conservative, though the cause of the greatest discomfort and often danger. "Better die than have dropsy" is an old saying, the outcome of painful knowledge.

When dyspnœa is due to endocarditis, the outcome of dropsy is a relief to the difficult breathing. It shows that nature is making one more effort to relieve the overburdened heart of some of the load it has to carry. The work is lessened by draining from the blood vessels some of the less essential constituents of the blood and depositing the watery elements in the cellular tissue and distensible sacs.

The heart thus relieved may strike a new balance, secure a new compensation, and be able to meet the demands of the organism for months, and possibly for years to come.

The salutary effect of dyspnœa is to protect the body from air starvation, for oxygen must be deficient before dyspnœa can occur.

It is an emergency symptom, and its etiological factor must be sought for and relieved if possible. It is the disease and the want of oxy-

gen, not the dyspnœa, that calls for treatment. The rapid breathing does more than increase the supply of oxygen in the air vesicles—it increases the circulation as well.

In normal breathing the respiratory effort aids very materially the circulation of the blood, and with the increased breathing of dyspnœa the current is accelerated and a larger volume of blood is carried to and through the oxydizing area.

If attention be given to the character of the breathing it will be found that the respirations are so altered as to accomplish the most good with the least expenditure of force. In all cases of dyspnœa the effort of nature is to conserve the powers of the organism. In pneumonia and kindred conditions, where there is no hindrance to the ingress and egress of air through the tubes, the breathing is rapid, shallow and panting; but where there is an obstruction in the upper air passages, breathing becomes deep, slow, and distressing.

Dyspnœa may be subjective or objective. When it is present the patient feels and manifests signs of distress, such as breathlessness and overwhelming fatigue, and shows the effects of dyspnœa by the objective symptom cyanosis. Strange as it may seem, dyspnœa, though present, is rarely a prominent symptom in respiratory diseases, save in asthma and its frequent sequela, emphysema, and in pressure diseases.

In many pulmonary diseases, where the dyspnœa is slight as compared with the amount of lung involved, the absence of this symptom may be partially explained by the observation of Lictheim, who showed that one quarter of the normal sectional area of the blood vessels was sufficient to allow the normal amount of blood to pass through the lungs. In the majority of cases of respiratory diseases, the heart is strong and vigorous, and is abundantly able to send the blood through the unaffected portion of the lung. Thus, with the increased respiration rate, though the breathing may be shallow, and a free transit of blood through a limited area of healthy lung, oxydation is amply sufficient for the necessities of the body and the maintenance of life.

In pneumonia and severe bronchitis, the ob-

\* Read at a meeting of the Medical Society of the County of Kings, December 20, 1904.



jective symptom of dyspnœa—cyanosis—does not, as a rule, appear until the right heart shows signs of weakness or failure. When we compare cardiac with pulmonary dyspnœa, there will be found a marked distinction.

Cardiac dyspnœa is, as a rule, constant, being present even when the patient is at rest, but in pulmonary diseases it occurs chiefly on exertion. In the great majority of cases, the symptom dyspnœa is associated directly or indirectly with disturbance in the circulation.

In pure cardiac asthma the lung structure is normal, or nearly so, but the cause of the dyspnœa is due mainly to over-filling of the capillary blood vessels of the lungs. The excellent physiological researches of Von Busch have done much to explain the direct cause of cardiac dyspnœa. Leube, in his excellent work, discusses the subject with especial reference to diagnosis. It has been found that if the capillary blood vessels of the lungs be over-filled, the elasticity of the alveolar walls is lessened and the lumen of the air cells diminished. This increases the work of the inspiratory muscles and leads to dyspnœa.

This over-filling of the capillaries occurs either with high or low blood pressure in the aorta. It is well known that irritation of the circulatory centres will increase, not only the pressure in the aorta, but in the pulmonary artery as well. This will cause an over-distention of the pulmonary capillaries around the air cells, and, as a consequence, the alveolar walls become rigid, the elasticity and capacity of the lung impaired, and as a result cardiac dyspnœa. This condition of circulation is found in cirrhosis of the kidney, arterio sclerosis, and in most cases of high arterial tension, due to changed metabolism.

On the other hand, the same results obtain with low blood pressure, which is usually associated with weakness of the cardiac wall, or valvular disease, or the two combined.

Cardiac insufficiency causes overfilling of the lesser circulation and the venous system.

There is greater pressure in the pulmonary arteries, and with it is heard the accentuated pulmonary second sound. Here, as in high tension pressure, there is over-filling of the capillaries, stiffening of the alveolar walls, increase in the volume of the lungs, with lessened elasticity, and a constant tendency to dyspnœa. Thus, whether the arterial pressure be increased or decreased, the ultimate effect on the capillary circulation through the pulmonary area is the

same. In paretic cardiac dyspnœa, the left ventricle is at fault. Its walls may be weak from mal-nutrition, fatty degeneration, or other causes. The heart may be able to do its work only under the most favorable conditions, and any slight increased demand may be sufficient to cause dilatation, and, as a sequence, there is over-filling of the lesser circulation, disturbance of the capillaries, and an attack of cardiac asthenia.

There are, without doubt, other causal factors in cardiac dyspnœa, but in the majority of cases the over-filling of the capillaries exists in one form or another. The physiological findings, the pathological results, and the great benefit derived from a rational treatment, the outcome of a correct diagnosis, confirm this explanation of the cause of cardiac dyspnœa.

There is another form of dyspnœa which occurs at night and is known as "nocturnal dyspnœa." It is associated with cardiac failure and with diseases in which there is a tendency to dyspnœa and cyanosis.

The attack comes on during sleep, the patient awakes struggling for breath, and with the feeling of impending dissolution. The shock to the nervous system is very severe, and the fear of a recurrence keeps the patient awake for hours—thus adding to the difficulty.

During sleep the number of respirations decreases, and the respiratory centres become less sensitive to the stimulation of CO<sub>2</sub> and fail to respond by rythmical action, but sooner or later the demand for oxygen becomes imperative, the centres are aroused suddenly and there results the most distressing dyspnœa. For this form of dyspnœa there is no agent equal to strychnia. By its happy action on the respiratory centres, it maintains or increases the sensibility of these centres, and renders them responsive to their normal stimulus, carbonic acid. In this way the respirations are regulated and the breathing is amply sufficient for the needs of the body while at rest. Under these conditions, strychnia proves an excellent hypnotic. In the treatment of this form of dyspnœa the ordinary hypnotics, such as opium, chloral, trional, sulphonal, etc., are not only useless, but positively harmful, for the reason that they increase the difficulty by rendering the respiratory centres less sensitive, and, if given in large doses, may cause death.

The untoward action of strychnia on the bladder must not be forgotten. This is often a barrier to its use in old people, in whom this form of dyspnœa is liable to occur. Under such cir-

cumstances the use of small doses of atropia will stimulate the centres, and its soothing effect on the bladder will prove most gratifying.

The chief object of our study of pathology and clinical medicine is to bring relief to the suffering, and is of the greatest importance in cardiac dyspnoea. The rational treatment here, as elsewhere, depends upon a correct diagnosis, but this is not always easy. It is sometimes most difficult to diagnose the various causes of cardiac dyspnoea, the condition of the lungs being the same whether the over-filling of the pulmonary capillaries be due to high or low blood pressure.

The treatment of the one is almost the opposite of the treatment of the other. The object in one case being to open the blood paths, lessen the resistance in the arteries, and, by so doing, diminish the work of the heart. In the other, to drain a way through the venous radicles, the watery portion of the blood, and thus diminish the volume of fluid going through the heart, thereby lessening the work of this organ.

When the dyspnoea is due to high arterial tension, nitro-glycerine is an excellent agent, but its action is transient, and the dose must be given at short intervals, and this is not always desirable. When the action of the drug wears off, the tension returns with equal, if not greater resistance. The see-saw action of nitro-glycerine is apt to occur if it is not intelligently given and carefully watched. There is another excellent remedy, and one we have somewhat neglected, I fear, in our enthusiastic search for the new, and in many instances, less reliable medicines. The tincture of aconite is one of our most reliable remedies, and its action is so well known, and its untoward effect so easily guarded against, that it easily stands first as a vaso-dilator. Its well known power to lessen the number of heart beats and diminish arterial tension makes it of exceptional value in cardiac dyspnoea due to high tension.

Another action, long known but often overlooked, is its power to increase the secretions of the skin, and of the kidney as well. Its action on the kidneys is not only to increase the amount of water, but to markedly augment the elimination of the solid constituents of the urine—a very desirable result in cirrhosis of the kidney, in which high arterial tension is a constant symptom.

Dr. W. H. Thompson, a master in therapeutics, has given to the profession an excellent article on the use of aconite in the treatment of uremia from various causes.

When the obstruction by way of tension has been removed, the blood, in the lesser circulation, is carried away more rapidly, the air cells lose their rigidity and regain their elasticity, oxidation is increased, and the dyspnoea disappears.

Another excellent remedy is the iodide of potassium. This agent also acts as a vaso-dilator, and it becomes a most valuable remedy when the use of digitalis is indicated by evidences of a failing heart wall, as when the left ventricle is about to yield under the pressure due to obstruction in the arteries. Five, and at most ten, grains of potassium iodide daily, will be amply sufficient to overcome the tension caused by the heart tonic. In this way the work of the heart may be diminished and at the same time the nutrition of the heart wall be improved.

On the other hand, when the overfilling of the pulmonary capillaries is due to venous stasis, as found associated with mitral lesions, the treatment must be directed to the venous side of the circulation.

The right heart and the veins being over-filled, there are only two ways of relieving the venous tension: by venesection or by drainage. Venesection is not often justified, for the blood is not in excess, but out of place, and practically out of commission, for the blood while in the arteries is a nutritive fluid—in the veins it is not available for the purpose of nutrition to the extent of anything.

The second method of relief is generally employed—drainage by way of the venous radicles—and this can be accomplished most effectually by the use of a saturated solution of the sulphate of magnesia, given until the bowels move very freely—with the effect that instead of weakening the patient, it gives strength, comfort, and often sleep. Other agents may be used, such as compound jalap powders or eleterium, but the results are the same, a relief to the right heart.

When the congestion in the pulmonary area is on the venous side, and, as it frequently happens, due to morbid defects, digitalis would seem to be indicated, and so it is—but digitalis is powerless to act in the presence of an over-filled right auricle. The pressure in this cavity must be relieved before a heart stimulant can act effectively, and the preliminary treatment can be speedily accomplished by drainage. Drainage by way of the venous radicles becomes an important factor in the nutrition of the heart itself. As is well known, the coronary veins empty into the right auricle. If this chamber be over-



filled the veins are unable to empty themselves perfectly—the venous blood is retained in the tissue to the exclusion of the arterial blood. Thus, the tissues of the heart gorged with venous blood become asphyxiated by the products of their own metabolism.

By tapping the right auricle, by way of drainage through the alimentary tract, the veins of the heart will be better emptied, the arteries better flushed, and the heart, with its improved nutrition, will be able to adjust a new balance; a new compensation may be reached, and, under proper treatment, maintained indefinitely.

When the heart has been rehabilitated, it is necessary to maintain its restored integrity by attention to diet, exercise, and by the use of cardiac tonics judiciously administered. The continued use of cardiac or other tonics is not often desirable, but in cases where the heart wall is weak and treacherous, and when any failure in the nutrition of the heart is likely to lead to dilatation, the employment of small, infrequently repeated doses of digitalis is most serviceable. The use of digitoxin in small doses, as recommended by Balfour, is most serviceable—a dose of 1-240 grs. every night or second night will be all that will be necessary to maintain the nutrition of the heart, and to manage the circulation.

Strychnia is another valuable remedy, and when combined with arsenic its beneficial action is greatly increased. Arsenic alone increases the respiratory capacity, and in this way lessens materially the respiratory distress.

Other remedies will suggest themselves to the careful physician, but in the emergency of cardiac failure digitalis, judiciously employed, is far and away the best remedy at our command. Again and again by its use, or the use of its congeners, a new balance of the circulation may be established; but to the damaged heart, crippled beyond repair with the ever-recurring dyspnoea, with its suffering and exhaustion, there must come a time when the limit of compensation will be reached, a time when the heart can never be rehabilitated. Worn out with the long struggle against an insurmountable obstacle it slowly but surely yields, and irretrievably.

The end is foretold by the upright position, the swollen feet, the massive limbs, the distended abdomen, the dyspnoeic breathing, the almost pulseless arteries, the livid lips, the suffused eyes, the mental wandering—and above all, the slow oncome of paralysis—the outcome of an overwhelming and fatal cardiac fatigue.

## THE FIVE OBSTETRIC EXAMINATIONS.\*

BY ROBERT L. DICKINSON, M.D.

The examinations that should be matters of routine during pregnancy, labor and the post-partum state, belong to five periods:

- 1st, In the second month;
- 2d, In the eighth month;
- 3d, During labor and at its conclusion;
- 4th, Two weeks after delivery;
- 5th, Two months after delivery.

1. In the second month.—Its *object* is to make sure of pregnancy, and to determine that no cause exists that might terminate the pregnancy, such as retroversion, marked anteflexion, tumors, adhesions, cysts of the cervix or tubal gestation. Retroversion is so common and causes so little dysmenorrhea in certain healthy uteri of healthy women that its presence must be suspected until the particular uterus is proved innocent. For instance, a young Californian, active in out-door sports, yet with that alertness and culture usually accompanied by sensitiveness, had never suffered a qualm of discomfort at her well-timed periods. I had to apologize to myself for applying the rule to her, especially as she had not known nausea or pelvic uneasiness during the three and a half months of this, her first pregnancy. Yet there existed the most aggravated type of incarcerated retroversion. The fundus was solidly fixed in the sacral hollow. Though the patient was self-controlled and tolerant to a degree, the displacement resisted all measures except forcible reposition under anesthesia. If it is objected that I am selecting an extreme case, here is another. It occurred in the practice of a man informed and keen beyond his fellows, a man who studies every case as if it were his only patient. I mention this because any practitioner may miss it, if the diagnosis was missed by this man with a card-catalogue in his mind.

*Seven pints of urine in the bladder owing to incarceration of the uterus.*—The patient had always been robust, but suffered from moderate dysmenorrhea and bearing down. Her first labor, fourteen months ago, was easy. The last menstruation occurred four months ago, with "terrible pains" at the time of the first omitted period; for the past two weeks very rapid growth of the abdomen with more or less aching, so that she could hardly walk. The abdominal pains date back seventeen days, the great distension at

\* Read before the Brooklyn Gynecological Society, December 2, 1904.

least fourteen days. She reports that she has urinated regularly. The abdomen is of a size that would correspond to seven and a half months, a tumor in the median line feeling like the uterus, but fluctuating, reaches three and a half inches above the navel. It is somewhat hour-glass in shape from side to side, but protrudes evenly in front. On vaginal examination the cervix is found three and a half inches, by measurement, above the sub-pubic arch, flattened against the abdominal wall, while the bulk of the uterus is distending the pelvic cavity hard down against the pelvic floor. By catheter seven pints and three ounces of urine were drawn in the space of one hour, and a tight bandage was applied. Next day, a colpeurynter was placed in the vagina for some hours, whereupon the uterus resumed its natural position. On the third day the bladder was taking up its work. No cystitis developed, and no lack of control or irritability was complained of.

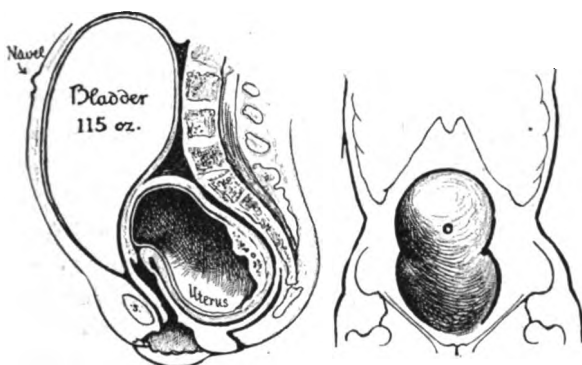


Diagram of incarcerated uterus and over-distended bladder, in sagittal section. Also view from front. The cervix should be shown higher, and further forward, flattened against the abdominal wall.

If you should say that previous knowledge of the patient will preclude the necessity for this routine examination, I can cite cases that have retroversion in the early months of pregnancy, and at such times only.

Anteflexion, in first pregnancies, when pronounced, calls for great care at the time of the omitted periods.

Lacerations of the cervix, widely gaping, are warnings to use care also; cysts of the cervix, if large or numerous, are irritants to be removed by puncture, and extensive erosion calls for treatment.

A tumor, such as a small ovarian cyst or a uterine fibroid, may have given no warning of its presence. Now, cognizance of such must be taken. The cyst calls for operation, the fibroid

only if located low in the uterus, or if large in size.

Adhesions are to be watched. They soften and lengthen up wonderfully during the slow, succulent growth, but detection at this stage solves the problems of some later lop-sided developments. An old pus tube, if present, contains sterile pus.

Tubal pregnancy is thus detected, or more often only suspected, before rupture jeopardizes life.

The *method* is as follows: The patient empties her bladder, loosens the clothing thoroughly, and lies down on the table. One looks for anemia, heart disease or weakness, tuberculosis, or oedema—that is, for warnings of possible contra-indications to continuance of pregnancy, for this is the time to find them. One inspects the nipples and gives directions concerning their cleansing, or development by massage; and then arrives at the bi-manual examination to determine the matters outlined above.

Then the patient is warned that she must exercise due care during the week when the period would be due, to avoid miscarriage—no shopping trips, no sewing machine, no husband, no excessive exertion—this care to cover the second and third skipped periods. If she has some reason to fear abortion or has the habit, she is instructed to add to the above, seven days on the couch in her wrapper, and is given morphia with instructions for prompt action if pains or show give warnings.

Thus many miscarriages are saved, many accidents averted. Like the urinary examinations, this second or third month investigation is without result for a long series of cases, then, suddenly, one saves a life—perhaps two. Many a mobile displaced uterus lifts itself without help; many a subperitoneal fibroid is harmless, but even these it is our duty to watch.

2. A month before labor:—This examination has become a routine matter with all men of modern training equipped with obstetric consciences. In all midwifery absurdly inadequate fees discourage thoroughness. This period presents no exception. General condition, heart strength, nipple adequacy, kidney action, presentation and position of child, pelvic measurements, these at least should be looked after, with whatever other matters will develop. Thus shall many lives be saved, and danger signals will be seen in time.

3. The examinations during labor have re-

ceived all the attention they should need. We may say in passing, however, that too few men clip the labial hair or adequately clean the neighborhood in which an anus is no desirable feature; that hand cleaning is done rightly ten times, where care against unclean contact after cleaning is exercised once, and that re-cleaning for re-examination is often perfunctory. There is improvement all along this line nevertheless, and the laity, quick to catch the picturesque results, is noting the difference between the clean and the careless, and grows critical year by year.

At the close of labor, when all hands are tired out, to shirk is only human. We all do it. Good illumination for visual and digital inspection of the perineum, and of the vagina and cervix in certain cases, will give us the points for or against immediate action. My rule is: The worse the tear, the later the repair. Lacerations through the sphincter should be faced and deliberately classed as a complicated operation calling for table, ether, ample assistance, good lighting, and leisure. Together with bad tears of cervix or vagina, the repair of this injury belongs some days after labor. This seemingly irrelevant statement has a bearing. Examination that determines the damage exactly will often postpone action till anesthesia can be employed, till patient and accoucheur have rallied, and, particularly, until the ragged and distorted anatomy has shrunk to recognizable proportions, so that suture will ensure symmetry and normal function.

In parenthesis, between 3 and 4, I venture to interpolate another practice of mine that has received scant welcome. If at the end of labor you have reason to believe that although the perineum is intact the long hard labor may have hurt the cervix seriously, a vaginal examination at the fifth day will give an indication for repair at the very time that such repair works out best. In primipara with sound perineal bodies I usually investigate then.

Now for the postpartum examinations. What excuse can we give for undiscovered retroversions? Why are they common? Why is not every woman interrogated with both hands when the doctor dismisses himself, and why does he not order her to report at the office later? For the general practitioner I set the times for postpartum vagino-abdominal examinations as *two weeks* and *two months*. My own practice has been two weeks, six weeks, three months.

An examination for retroversion eight to fourteen days after labor is the important one and

covers more than half the cases, as far as one may guess, without looking up records, but one will find very numerous instances of good position with fair shrinkage at the time when the patient gets up which exhibit pronounced backward displacement later.

After three months the danger is past.

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#### THE SEMEIOLOGY OF VOMITING IN CHILDREN.

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BY E. H. BARTLEY, M.D.

Vomiting is so frequent in infants and small children, and accompanies so many different conditions, that it is often very difficult to interpret.

The younger the child the easier does it vomit. This is partly due to the shape and position of the stomach in infants, and partly due to the susceptibility of the nervous system to reflex disturbances. *Habitual vomiting* or eructation of food in infants and young children differs from *true vomiting* in that it lacks the effort, the nausea, disfigurement of countenance, or the contraction of the abdominal muscles seen in the latter. In this form of vomiting there is no other evidence of disease, the child appearing cheerful and well both before and after vomiting. It is apt to occur soon after taking food, or after moving the infant about. In nurslings the milk ejected may be curdled or fluid. When the ejection occurs soon after taking food, the fluid character of the milk usually indicates over-filling the stomach or over-feeding. When fluid milk is ejected 15 to 30 minutes after nursing it indicates a deficiency of gastric secretion, either acid or rennin. *Habitual vomiting* is sometimes seen in older children, especially in continuing the vomiting after some disease has started it. Some children acquire the habit of vomiting any food or medicine which they do not like. Such children will vomit whenever they are crossed or punished as a means of securing their own way.

Over-feeding, undue handling, habit and nervous excitement may, then, be the cause of simple regurgitation of food.

*True vomiting* is characterized by nausea, shown by pallor, cold extremities, a small quickened pulse, clammy perspiration, restlessness, etc. The act of vomiting is attended with disfigurement of the face and contraction of the abdominal muscles. The contents of the stomach are ex-

pelled with considerable force, while at the end of the act the child utters a peculiar sound as if suffocating.

We may conveniently classify vomiting into the following seven groups, although it will be admitted that some of these groups may overlap others, and it may at times be difficult to differentiate individual cases.

1. Gastric vomiting.
2. Reflex vomiting.
3. Cerebral vomiting.
4. Bloody vomiting.
5. Febrile vomiting, or toxic vomiting.
6. Cyclic vomiting or recurrent vomiting.
7. Vomiting of exhaustion, or vomiting after certain exhausting diseases.

*Gastric vomiting* almost invariably occurs in cases of acute gastric indigestion. It results from irritation of the gastric mucous membrane by anything introduced into the stomach. It may be irritating or indigestible food, or due to the irritation of the products of excessive carbohydrate fermentation. In this last case the vomit is apt to be green. In such cases the child may seem quite well after emptying the stomach, and may not even lose the appetite. The stomach may, on the other hand, be hypersensitive because of acute or chronic catarrhal inflammation, or from some neurosis, or chlorosis.

Nervous excitement, as fright, anger, disappointment, prolonged violent play, may at times cause an arrest of digestion and subsequent vomiting.

Gastric vomiting is apt to be preceded by fever, restlessness and marked prostration, which in young infants may approach collapse. The vomiting usually ceases when the stomach is evacuated, but it may continue some hours owing to the reflex irritability of the mucous membrane, which may last some time after the irritant is removed.

*Reflex vomiting* is most often caused by irritation or inflammation located in the intestine, peritoneum, appendix, lungs, pleura or brain.

In acute intestinal obstruction, vomiting is rarely absent, and is generally persistent as long as the obstruction lasts.

Persistent vomiting in the new-born is usually due to congenital obstruction of the bowel, usually in the duodenum, or at the pylorus. In occlusion of the colon or rectum the vomiting is less constant and comes on later. In intussusception the vomiting is projectile, and immediately

excited by taking food or drink, and associated with bloody diarrhea. Sooner or later the vomit becomes fecal in character and the collapse profound. Simple constipation, unless very much prolonged, seldom causes vomiting. Any severe pain in the abdomen may excite vomiting, as intussusception, appendicitis, peritonitis, cystitis, biliary or renal colic, acute intestinal indigestion, or worms (lumbricoid). General peritonitis is almost always attended by vomiting, fever, tenderness and distension. Irritation in the nose or pharynx, or possibly dentition, may cause vomiting.

*Cerebral vomiting* accompanies both acute and chronic irritation of the brain or its membranes. It is peculiarly persistent, frequently lasting for several days in spite of treatment. There is no relief after emptying the stomach, as there is in gastric vomiting. On the other hand the little patient feels more weakened and exhausted than before. Convulsions, somnolence, rigidity of certain muscles, or retarded pulse may assist in making the diagnosis. There is often a period of ailing for some time before the vomiting sets in. In cerebro-spinal cases cerebral symptoms quickly follow.

There is a form of nervous vomiting which may resemble cerebral vomiting, which occurs without special assignable cause except an unsettled nervous system. It is apt to recur each morning, or at some other hour each day. It is very obstinate and may continue for weeks or months. It is not usually associated with much emaciation, and is less dangerous than the same malady as seen in nervous women. The diagnosis is best made by exclusion. There are none of the other signs of meningitis or brain tumor. There is no fever as there is in meningitis.

There is usually a clear tongue in cerebral cases. The bowels are apt to be constipated. The vomiting is increased by raising the patient from a horizontal to a vertical position. The clean tongue or normal stools, absence of bad odor in the mouth, violent headache, somnolence and irregular retarded pulse, when present, indicate cerebral vomiting. It must be admitted, however, that these symptoms are by no means regular in cerebral vomiting. Uremic vomiting may closely simulate cerebral vomiting, is persistent, does not respond to treatment, is accompanied by headache, etc. Migraine may be met with in children, with severe headache and vomiting. When the child falls asleep, it awakens well. Not so in cerebral or uremic cases.

*Bloody vomiting* occasionally occurs in the new

born, when it is called *melaena neonatorum*, recovery from which is rare. Also, from acute fatty degeneration (Buhl's disease), characterized by cyanosis, hemorrhages under the skin, oedema, and bloody vomiting. The prognosis is bad. It is a septicaemia, or may possibly be due to inherited syphilis. Hemophilia may give bloody vomiting, but here the hemorrhage occurs from other organs as well. In older children bloody vomit occurs in hemophilia, *pupura hemorrhagica*, and less frequently in the outset of smallpox, and rarely in malarial paroxysms, or chills.

*False hematemeses.* In making a diagnosis of hematemeses one should be mindful that swallowed blood may be vomited. This may occur from swallowing blood drawn from a cracked nipple, from nose bleed, bleeding gums, or from placental hemorrhage during the birth.

The diagnosis of false hematemeses is made:

1. By finding the source of the blood.
2. By the lack of pallor, or weakness.
3. By the small amount of blood ejected.

Hematemeses is sometimes simulated by some article of food or drink—as berries, colored drugs or drink. In case of doubt we may test the vomit with guaiac and turpentine.

*Febrile or toxic vomiting.* Vomiting with fever occurs at the outset of a number of diseases. Those diseases with which vomiting is most likely associated, especially at the onset, are scarlatina, smallpox, during malarial paroxysms, meningitis, lobar pneumonia, pertussis, gastritis and gastro-enteritis. Less constantly, we may have vomiting in some other conditions attended with a cough.

1. In whooping cough the vomiting is quite constant in all severe cases, and comes at the close of a paroxysm.

2. In bronchitis and pharyngitis, when the secretion is scant and tenacious.

In such cases it may resemble the vomiting of pertussis in occurring at the close of a paroxysm of coughing.

3. Purulent pleurisy, especially diaphragmatic pleurisy often provokes vomiting. Very important from a diagnostic point of view is the vomiting met with at the onset of lobar pneumonia, because it occurs very frequently and is apt to mislead the attendant. Abdominal pain not infrequently accompanies it.

*Cyclic or recurrent vomiting* is a form of vomiting without apparent cause occurring at intervals of a few weeks or months, lasting from 12 hours to three days. It is attended with fever

and severe prostration. It is usually preceded with malaise, headache, anorexia, epigastric distress, lasting from a few to 24 hours. The vomit contains particles of food, at first, then it consists of mucus or sero-mucous fluid and sometimes blood. The clinical picture reminds one of an attack of migraine in an adult. In a few cases in which the urine has been examined by Herter, the uric acid was less than normal during the attack. The vomiting ceases without treatment and recovery is rapid. Occasionally sudden collapse and death occurs.

The cause of these attacks is now believed to be an acidosis or acid intoxication. It is therefore the result of excessive carbohydrate fermentation, with absorption of acid products and diminished alkalinity of the blood.

Edsall and Marfan have found acetone in the vomit, which is an oxidation product of beta-hydroxy-butyric acid. Basing the treatment upon this observation he found a rapid improvement on giving  $\text{HNaCO}_3$  in large doses, as much as 100 grains per day. The urine has been found by Griffith to be loaded with indican and contained also acetone.

Marfan believes that acetone in the stomach is the cause of vomiting. It is more likely, however, that it is the toxic effect of the acid intoxication, and is therefore a toxic vomiting.

The last class of cases of vomiting I have called the vomiting of exhaustion, seen during apparent convalescence from diphtheria, scarlatina, pneumonia, etc. Leyden describes it under the name of the vomiting of irritable weakness. He attributes it to an irritable condition or hyperesthesia of the stomach, due to an exhausted and irritable nerve center. He describes one case as due to antipyrine.

This form of vomiting is especially dangerous in the period of recovery from diphtheria, cerebro-spinal fever, typhoid fever, pneumonia, etc. Vomiting during convalescence from diphtheria is a grave symptom, as it is apt to foreshadow cardiac paralysis, either immediately or within a day or two. Such cases seldom recover. The same may be said, though with less certainty as to prognosis, in other serious illnesses. The appearance of vomiting often precedes serious or fatal collapse. It appears to me to result from exhausted nerve centers, when they become unsteady and irritable, and lose control of the sympathetic ganglia. This form of vomiting may then be regarded as the vomiting of exhaustion of the nerve centers.

**INTESTINAL ANASTOMOSIS WITH THE AID OF  
ACCESSORY SUPPORT TO THE INTESTINAL  
WALL: ALSO A DESCRIPTION OF AN OP-  
ERATION FOR SUTURING THE IN-  
TESTINE WITHOUT SUPPORT.\***

BY GEORGE WACKERHAGEN, M.D.

In reviewing the literature relating to devices to facilitate the operation of enterorrhaphy, we are at once impressed with the number of such inventions. The fact holds in surgery as in medicine that where so many procedures and remedies are brought forward for a given condition, it follows that an altogether satisfactory line of procedure has not yet been established.

My object in bringing this subject before the Surgical Society is to get the opinion of gentlemen who have had considerable experience in this field of surgical work. The various methods of suturing in these operations are no doubt familiar to you all, each operator being the most successful with that which he has chosen as his ideal, and consequently has become most skillful in its use. It is unnecessary to reiterate what the suture should always accomplish. Other things being equal, the suture to be desired is that which can be applied with the greatest rapidity. I may say here that my own preference is for a continuous overhand stitch of all the coats with an occasional backstitch followed by a continuous Lembert, also with an occasional backstitch; special attention being given to closure at mesenteric border by Halsted sutures. However, two tiers of different kinds are generally preferred. Of all methods of suture in cases where no bobbin or intestinal support is used, that proposed and successfully practised by F. Gregory Connell, of Chicago, published in the *Philadelphia Medical Journal*, January, 1899, is superior in every respect, barring the time required to become perfectly familiar and deft in its application. His treatise on the subject is most interesting and exhaustive.

Briefly, I will ask your indulgence in reviewing certain appliances devised by me for this operation.

The method of attaching a glass ball to the Murphy button by a silk thread, leaving the ball in the intestine for the purpose of pulling the button into the intestine to prevent its falling into the stomach, was suggested by me in December, 1895, and first used by my friend, Dr. Lange, on the 14th of February, 1896.

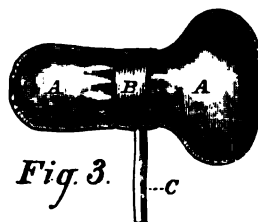
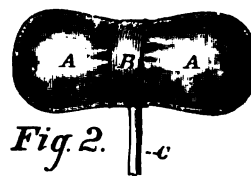
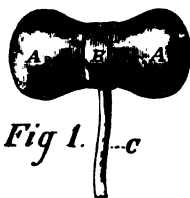
The patient was a woman aged 50 years, a case

of inoperable cancer of the stomach. She promptly recovered from the gastro-enterostomy and was discharged from the hospital in good condition. Some time after her return to her home she complained of return of the pain in her stomach and died eight months after the operation from exhaustion. The friends objected to an autopsy. Neither the glass ball nor the button were found in the rectal discharges.

The next experiment of this kind was tried by Dr. Rosencranz, of Hoboken, on the 6th of December, 1896, on a dog. Three weeks after, neither the glass ball nor button having been detected in the discharges, the stomach was opened, but the dog died from the effects of the anesthetic. At the autopsy neither the ball nor the button was found in stomach or intestine.

Notwithstanding the doubtful results obtained I still believed it practical, and proposed that the rim of the button which occupies the intestine should be made a little larger than that which is placed in the wall of the stomach. Two buttons of this kind were made by Geo. Tiemann & Co., in May, 1897, and are presented for your consideration. I believe this button will fall in the intestine without the need of any attachment.

During the latter part of the year 1897, I introduced inflated rubber supports of various sizes and shapes to facilitate intestinal anastomosis, end to end, end to side, and for gastro-enterostomy. These with full description were published in the *New York Medical Journal*, January 29, 1898. Until my attention was called to an article by Dr. Halsted, published in the *Philadelphia Medical Journal*, January 8, 1898, I believed myself the first to propose this accessory apparatus.



There were, however, some points of difference, viz: First, the middle portion in width for about one-half inch, was made of double thick-

\* Read before the Brooklyn Surgical Society Dec. 1, 1904.

ness so as to prevent the needle from puncturing. Second, the supports were of different shapes, those for end to end were cylindrical in shape, Fig. 2, those for gastro-enterostomy, Fig. 1, were bulbous on both ends, and for end to side were bulbous on one side and cylindrical on the other, Fig. 3. Third, artery forceps were applied to the small tube after the support was inflated, and, having finished the suturing, excepting the last two, the forceps were removed, the air expelled from the rubber bag, and the tube cut off close to the surface. The collapsed rubber bag was left in the intestine to be expelled by the alimentary canal.

I subsequently learned from an editorial in the *Philadelphia Medical Journal*, February 26, 1898, that the following gentlemen had preceded us in this method of intestinal supports, viz.: Treves, of London; Reder, of St. Louis, and Downes, of Philadelphia.

In the *New York Medical Journal* of April 2, 1898, I reported the use of digestible wafer cylinders of various shapes and sizes for the support of the intestinal wall during enterorrhaphy, and claimed for this method the following advantages, namely, first, it is digestible, therefore it need not be removed from the bowel after the sutures are applied.

Second, it is easily introduced and affords firm support while the sutures are being applied; also a protection to the wounded internal surface for several hours after operation.

Third, because of the large size of the lumen, there is no danger of its becoming blocked by fecal accumulations above the site of the anastomosis.

Fourth, it is inexpensive and easily prepared.

The following description will explain a plan for the preparing of wafer tubes:

The cylinder moulds, 6 inches long, are made of tin and are not soldered together, but slightly overlapped, so that they may be compressed in

yond the wafer at either end. This is necessary in order to have sufficient surface under control for compression. They correspond in circumference to the Murphy button. The wafer cylinder, Fig. 1, represents the shape intended for

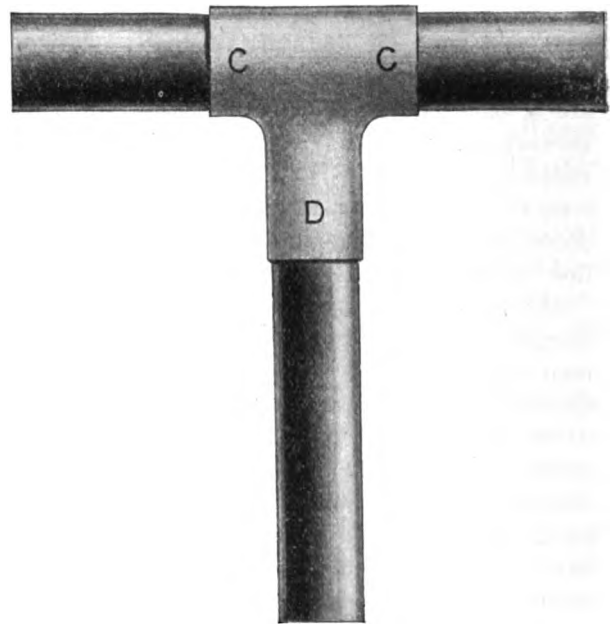


FIG. 3.

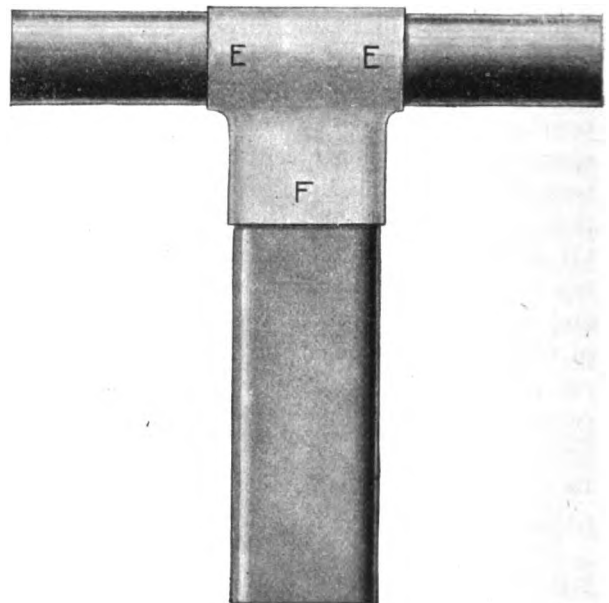


FIG. 4.

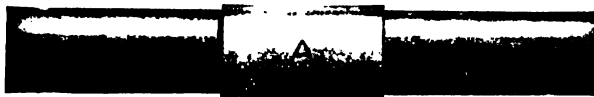


FIG. 1.

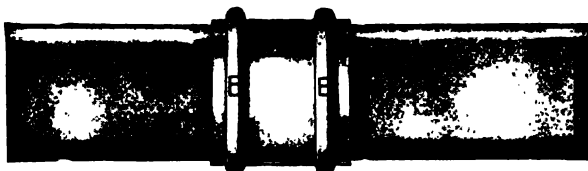


FIG. 2.

order to remove them from the moulded wafer, Figs. 1, 2, 3 and 4. The tin moulds extend be-

end to end approximation. This one, marked Fig. 3, is for end to side approximation (T shaped). The one marked Fig. 4 is for gastro-enterostomy.

The wafer cylinder representing side to side approximation, Fig. 2, has two ridges for the purpose of preventing displacement while the sutures are being applied.

The following is a formula for preparing wafer material: a very stiff paste composed of flour



and water is rolled into sheets about 1-12 to  $\frac{1}{8}$  of an inch in thickness. These are cut to fit and applied to the various molds upon which they are baked for about 8 or 10 minutes at a moderate temperature. Another method of baking has been used to prevent cracking, namely, remove the moulds from the wafer before they are thoroughly baked, then return the wafer to the oven and complete the baking. They are now thoroughly washed in sulphuric ether, wrapped in sterilized cotton or gauze and put in glass jars ready for use. I have found it a good plan to reinforce the seams with Squibb's flexible collodium, as they will sometimes crack at these points. The tin moulds can be procured at Messrs. Geo. Tiemann Co., 107 Park Row, N. Y. This method I have only used in experiments on dogs in gastro-enterostomy and end to end, both successful, and I feel satisfied that there is nothing so safe and satisfactory as a wafer support where suture is the method to be adopted.

In one case of end to end I simply used a continuous overhand suture including all the coats of the intestine by a single row and the result was very satisfactory. Perhaps the wafer support was a sufficient protection to the inner or mucous surface of the intestine to prevent leakage and contact with the digestive fluids until sufficiently firm. Of course, I should not like to take the risk of this method of suture in the human.

Those of you who have read the masterly introduction to a discussion on intestinal anastomosis by K. Stanmore Bishop, F.R.C.S., Eng., at the annual meeting of the British Medical Association, October 10, 1903, must be convinced that the use of bobbins or intestinal supports in enterorrhaphy are of very great assistance and are utilized by the majority of surgeons at the present day. Specimens of these moulds and wafer supports were kindly presented by this distinguished surgeon before the British Medical Association with the following remarks, page 3, reprint from *British Medical Journal*:

"I have said that bobbins are inadmissible in my opinion in the large intestine; but I have one form here which should probably be exempt from that dictum. Dr. Wackerhagen, of Brooklyn, has most courteously presented me for the purpose of this meeting with a set of his wafer supports and the mould upon which they are made. These supports are made of dough moulded upon these various moulds and are baked upon them. When baked the moulds are sprung out of them and they are then used in the same way as those made of decalcified bone. As they commence to soften

and disintegrate from the moment of use, they will not produce the obstruction which follows the use of the bone and metal tube, and therefore may safely be used in situations where the others would become blocked by hard feces. There can be no doubt that the presence of some support enables the surgeon to supply his sutures more evenly and therefore more safely, but the very transiency of their presence contra-indicates to my mind their use in the small intestine, where they would give little protection and that little for too short a time."

Now, I would say that the support given by wafer cylinders is not as transitory as one would be impressed by these remarks, but, as I have stated, they only begin to soften after the operation is complete, and I would say further that the softening is very gradual as the cylinders retain their shape even when they begin to soften, as was demonstrated by pressing them just before closing the abdomen. I presume that when they are made too thin the softening will take place too early; to prevent that, I have had them made thicker, and, in some cases, coated with a layer of flexible collodium.

As before stated, I have only used them in the small intestine and not at all in the large intestine, and have found them perfectly satisfactory. The specimens here presented were made two years ago and they are still firm and perfect in every respect.

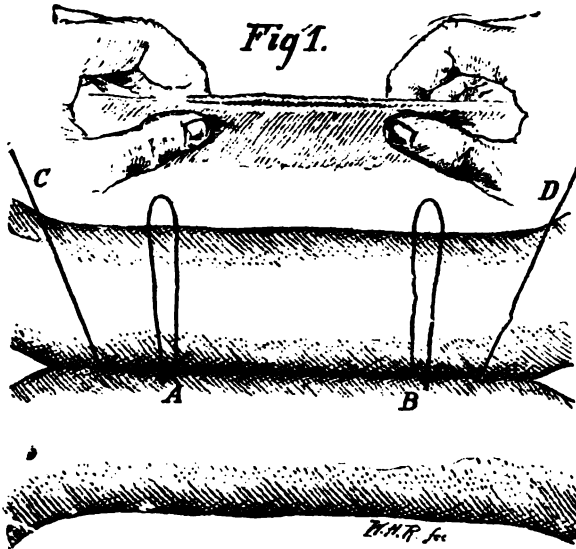
During the past three years I have been experimenting on dogs with rubber-covered clamps in operations for gastro-enterostomy and lateral anastomosis. These operations up to the present time have not been successful. This instrument, which I think an improvement is to be used as follows:

Openings are made in the intestine through which the rubber-covered blades are introduced and clamped, and the intestines are quickly closed by a simple continuous Lembert.

The complete apparatus consists of a clamp proper and a pair of introducing and locking forceps; the clamp is composed of two parts, one locking on the other by means of two barbed catches. On each half of the clamp is attached a segment of pure rubber tubing which gives elastic pressure when clamp is locked. The blades of the introducing forceps upon which the clamps slide have a parallel motion insuring perfect adjustment and secure locking of the clamp. After the clamp is locked the forceps is withdrawn by holding the clamps between thumb and forefinger of the left hand and pulling on forceps

with the other hand grasping the forceps at the joint. The clamps have been made much larger than I intended to have them as I propose to use them for entro-enterostomy after gastro-enterostomy.

To those who prefer plain suturing in intestinal anastomosis to any form of temporary support, the following is suggested:



OPERATION.

Fig. 1. After the excision and closure of the ends of the intestine the two segments are brought together side by side and guy loops are introduced (Fig. 1, A B) at points opposite the mesentery representing the length of the anastomosis to be made. A colored silk suture about 24 inches in length, with a knot 10 inches from its end is now introduced  $\frac{1}{2}$  inch beyond loop B, and a Cushing suture, D, is inserted between the two segments toward loop A, and to a point  $\frac{1}{2}$  inch beyond loop A, where a backward retention stitch is taken, C.

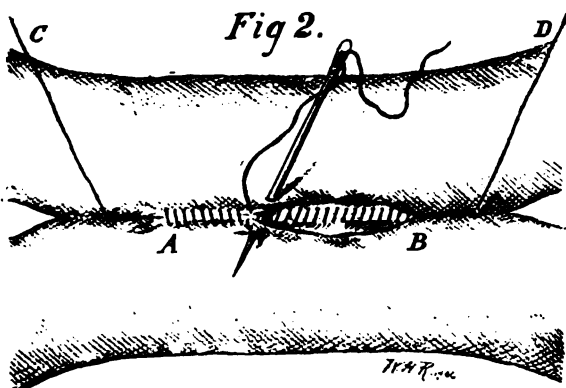


Fig. 2. A fold of intestine on one segment is next caught up with the forceps at loop B and a slit made with the scissors towards loop A, parallel

to and  $\frac{1}{4}$  inch from the Cushing suture, the same is done on the other segment (slits well shown in

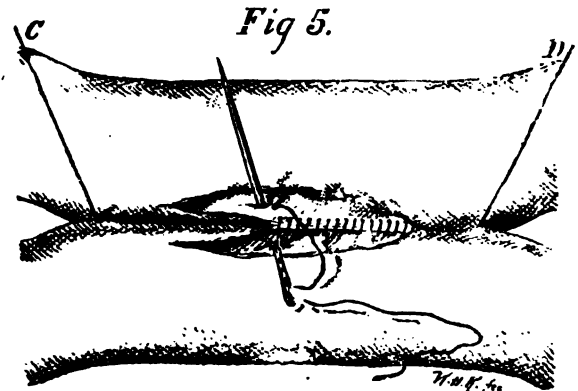


Fig. 5, operation for gastro-enterostomy), the free inner edges of these slits are now brought together by a continuous overhand suture, including all the coats, from loop B to loop A, and this is continued back again to loop B, bringing the outer edges of the slits together, the guy loops at B and A, respectively, may be dispensed with as these points are reached in the suturing, as the ends of the Cushing suture, D, C, may be used in their place.

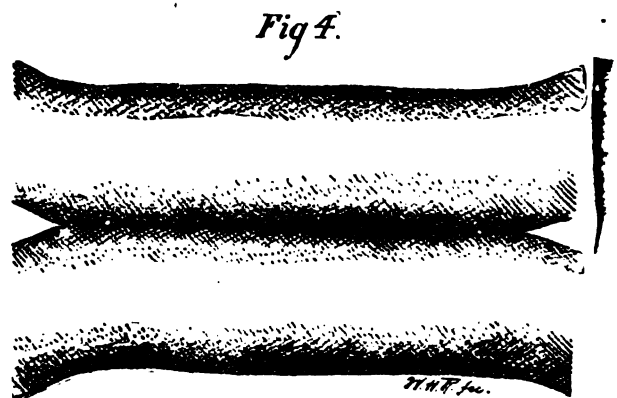
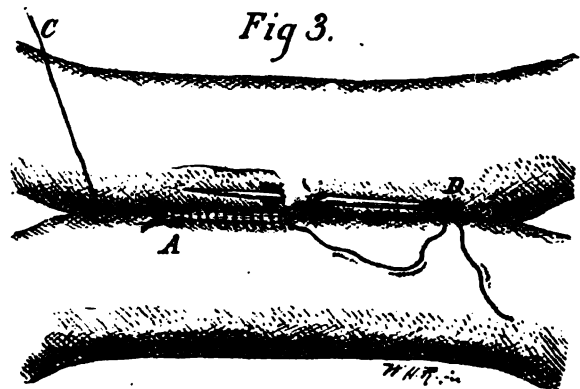


Fig. 3. Again, beginning at loop B, the long end of the original Cushing suture, D, is threaded and applied as a second Cushing stitch toward loop A, at which point the end is tied to that of

the original Cushing suture, C, at loop A, and the operation is completed (see Fig. 4). This is essentially the plan of Abbe and Halsted, with simplified technique; it will be observed that there are two sutures used, the Cushing outside and the overhand inside, the work being done continuously back and forth from below upwards, while the assistant holds the intestines in the abdominal wound.

28 Seventh Ave., Brooklyn, N. Y. City.

### ANTERIOR METATARSALGIA, WITH A REPORT OF SIX CASES.\*

BY CHARLES DWIGHT NAPIER, A.B., M.D.

Orthopedic Surgeon, Kings County and Williamsburg Hospitals  
Associate Orthopedic Surgeon, St. Mary's Hospital, Clinical  
Assistant, Hospital Ruptured and Crippled.

The subject of Anterior Metatarsalgia, or Morton's Painful Affection of the Feet, has been so well described by Whitman in his work on Orthopedics, and by Goldthwaite and others, that it seems unnecessary to go into the history and etiology of the subject. A report, however, of the histories of six cases occurring in the private practice of the writer may be of interest in bringing out suggestive points in the symptomatology. The condition has generally been considered one of extreme rarity, but in the opinion of those who come most in contact with painful affections of the feet, it is not so uncommon as is supposed.

Mrs. A. K., December 9, 1903. For over a year she had pain in the anterior part of the sole of the right foot, extending at times on to the dorsum, and at times up into the knee and hip of the right side. She has not had pain in other joints. These pains occur only when standing or walking, except they may last for a while after, considerable walking. She does not have them at night. She has for some time found relief from a stockinette bandage around the fore part of the foot. She has had occasionally uncomfortable feelings in the same places in the left foot. The right foot has been getting worse. The pain will come on in sharp spasms and only relieved by removing the shoe—pain starting from beneath anterior arch near the fourth toe. She has felt no pain around the longitudinal arch. The preceding week she has been under anti-rheumatic treatment with diet without any benefit, and was then referred to the writer for examination and treatment.

Examination:—Both feet were slightly pron-

ated. Anterior portions of feet broad with flattening of anterior arch. Longitudinal arches not flattened. No restriction of motions of either foot, and no pain on motion. No tenderness over scaphoid bones or under center of soles. No tenderness elicited on adduction of feet. Marked tenderness beneath and over metatarsophalangeal joint of fourth toe right foot. Slight tenderness under same joint left foot. Pain also caused at that point by squeezing together heads of metatarsal bones right foot. Anterior arches of both feet apparently perfectly flat. Slight hallux valgus both feet.

She has worn rather pointed toed shoes, but not extreme, and not high heels.

Imprint taken, which shows absence of re-entering angle of Goldthwaite. Right anterior arch strapped with small pad beneath head fourth metatarsal bone.

Advised wearing this pad and compression strapping right foot, and if necessary of left foot, also proper shoes with heels of both shoes and sole of right shoe built up  $\frac{1}{4}$  inch on inner side. Later, plates to be made. Medication and diet was discontinued by her physician. Directed proper exercises for the foot.

December 13th—Has experienced marked relief.

Whitman plate made which, after some modification, has been worn with great comfort—she forgetting most of the time that it was in her shoe. There has been no return of the pain, and she takes long walks with ease.

Dr. M. seven years ago had been riding the wheel considerably, and about that time wore a new pair of shoes which were rather tight. The right foot soon began to trouble him—the pain starting about the anterior arch. It would come on only when he had his shoe on. The past four years the attacks of pain increased in frequency and severity, and centered at the fourth toe. The pain was cramp-like and almost unbearable. The only relief obtainable was by removing the shoe and pressing down or up the fourth toe. He was obliged to wear loose low shoes which could be easily removed, as he was obliged to slip off the shoe wherever he was. He soon got into the habit of sitting in his carriage or in the cars with his foot partly out of the shoe. The pain often extended up the leg and back of thigh to the hip, and at times seemed to start in the hip. The cramp-like pain would usually come on several times during the day, but at times he would be free from them for several days, but only by wearing a loose shoe and keeping it off as much

\* Read before the Brooklyn Surgical Society.

as possible. He was unable to walk any distance or stand long.

On examination, the right foot appeared normal,—the imprint showed little change except perhaps some lessening of the re-entering angle of Goldthwaite. There was no pronation, and but slight flattening of the longitudinal arch, and no limitation of motions. The transverse arch, however, appeared somewhat flattened, and there was a point of marked tenderness at the fourth metatarsophalangeal joint. The palmar flexors of the toes were weak. The other foot was normal.

Treatment was begun by strapping and placing a pad under the painful articulation. This, however, was very uncomfortable and seemed to give no relief. A plate was made on the Whitman model over a cast of the foot, and perfect comfort and relief was obtained almost immediately. He is now completely free from the pain. Last summer he ran a race with the plate in the shoe, and he is seldom conscious of its presence.

Mrs. C. H., September, 1904. For about two months has been having pain in the right foot—some in the region of the metatarsophalangeal joints, but principally at a point just in front of the external malleolus. There has been swelling at this point, and at times redness. The pain is more of a tired ache—not sharp—worse during walking and just afterwards—little at night. She had been on her feet more than usual.

She had been treated for rheumatism without apparently any benefit.

Examination:—Some tenderness in front of external malleolus, slight swelling, no redness. Tenderness under articulation of phalanx of fourth toe with metatarsal bone. Compression of anterior arch while it is raised gives relief. Very little flattening of transverse arch; none of longitudinal arch.

Treatment:—Small pad under tender articulation—snug strapping, heels of shoes directed to be built up  $\frac{1}{4}$  inch on inner border, also anti-rheumatic treatment and exercises for the foot. The shoemaker misunderstood directions and gave her one of those shoemakers' ready made plates, supposed to fit everybody. This she wore faithfully for a few days in spite of great discomfort until December 1, when the mistake was corrected. Since then, with treatment also for rheumatism, she has made rapid recovery. She rarely has any trouble now, although the strapping has been discontinued for a month, and no plate was used.

Mrs. R. M. S., September 29, 1904. In the latter part of May she began having pains in left

foot. Was getting her new house ready and doing a good deal of shopping. The pain in the left foot came on every evening. She would have a steady, hard ache under the metatarsophalangeal joints, especially under the great toe. She says there was some swelling under the great toe at that time.

After a few weeks, the pain went up to a point just in front of the external malleolus; later the pain partly left the point under the toes. The pain was always greater when on the feet, and in the evenings, after going a good deal—rarely during the night. This pain would often extend up into the calf. The pain has always been a dull ache—never sharp. Rough pavements and going up and down stairs have been difficult. She would get relief by removing shoe, and having one of her children hold the foot, compressing the anterior arch.

No history of traumatism.

Examination—Tenderness at point of pain in front of external malleolus, and pain on pressure very marked under metatarsophalangeal joint of fourth toe; palmar flexor muscles of toes weak, and extreme flexion causes pain; anterior arch flattened; callous formation below fourth metatarsophalangeal joint; slight valgus of left foot; slight flattening of long arch, left foot, no tenderness of long arch or limitation of motion.

Treatment—Small pad under tender point, anterior arch strapped. Small pad also under longitudinal arch, with strapping about ankle. Proper shoes ordered, and exercises directed.

November 21—Practically rid of all pain and tenderness; cast taken for plate.

December 12—Strapping has been continued; she has been entirely free of all pain. Plate applied to left foot.

December 19—The plate has been worn with perfect comfort.

Miss C. H. G., October 25, 1904. She had hip disease when about three years of age.

Seven years ago she began having pain in the fore part of the right foot when walking. This would start under the ball of the foot and run up the back of the leg, and sometimes into the thigh, hip, and even back. It was always a dull, tired ache—never any sharp shooting pain. It has always been during walking—sometimes lasting for a while after sitting down, but never lasting during the night. The past year or two the left foot has troubled her similarly, but not as much as the other. Rough pavement and going up and down stairs have been especially difficult

for her. She has tried the Koehler and Coward shoe, and when wearing a broader and more sensible shoe has been somewhat relieved, but never free from trouble.

Ten weeks previous to consulting me, while walking, the right foot suddenly gave out as if it were sprained, with a feeling also of something having slipped; and after that time she kept to the house, being practically unable to walk. There was considerable swelling at this time on the dorsum of the left foot just back of the second toe, and there was quite a little pain for a few days.

On examination, both longitudinal arches were found slightly flattened, but presenting no symptoms of trouble. Both anterior arches, however, were completely flattened—the second and third metatarsal heads being on a lower plane than the others, and having under them thick callous formations. All the toes, but the great toes, were in the position of hammer toes, and the second toe of the right foot showed a partial dislocation upwards of the proximal end of the first phalanx. The great toes made an angle of about 40° from the straight line. The power in the toes was very weak, especially in palmar flexion. There was marked tenderness on pressure under the metatarsophalangeal joints of the second toes, a little under the third, none under the others. Compression of the anterior arch, when arched, gives a feeling of comfort. Attempts at palmar flexion of the toes with the hand causes pain.

Treatment was begun by placing a small pad under the painful articulations and strapping snugly the arch.

November 28, 1904. Proper shoes have been ordered; have not yet been gotten on account of her disability. Considerable relief has already been attained, and this week she has come to the office by the cars, walking the necessary two blocks with less difficulty.

The subluxation of the right second toe was reduced, and has been retained in its proper position, although with some difficulty. Improvement has continued.

Mr. S. E., teacher, November 19, 1904. He is necessarily on his feet a good deal. For about fifteen years he has had some trouble with his feet, which he has had treated off and on with, at times, some benefit. The pain has usually been in the fore part of the feet—not very well located by him—rather a tired ache all over the front of the foot. At times he has had pain referable to the longitudinal arch. He has been to different men in Boston and elsewhere, and has worn dif-

ferent kinds of sole plates. He has always had a good deal of callous under the balls of the toes, which at one time he had treated by a dermatologist in Boston with a little benefit. He has worn sensible shoes, but at the present is not. He has had no sharp or cramp-like pains. His subjective symptoms are not of much value.

Examination—There is a great deal of callous under anterior arch. Marked tenderness under fourth metatarsophalangeal joint. Callous also sensitive. Anterior arch much flattened—many of toes almost hammer toes—weakness of muscles—longitudinal arch good and no symptoms referable to it.

Treatment.—Pad, strapping, proper shoes, exercising.

Nov. 26.—He has already experienced some relief. Casts of the feet show second, third and fourth metatarsal heads on a lower level than others. A proper shoe caused considerable improvement in symptoms.

A word as to the causation of this disease may not be out of place. This, in the large proportion of cases, may be summed up in two words: improper shoes. The pointed toes, narrow width and high heels, must take the blame; and the extremes of these are not necessary. The only reason one can give that more cases are not produced by these ridiculous styles is that the wearers of them are necessarily not walkers. A narrow and pointed-toe shoe must cramp the toes, and a normal toe action not being allowed, a consequent weakness in muscles naturally results. Then, with the muscles of the anterior metatarsal arch weak, the arch becomes permanently flattened.

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#### DUKES' DISEASE.\*

BY BENJ. EDSON, M.D.

In the *London Lancet* of July 14, 1900, Dr. Clement Dukes reports an epidemic of a contagious eruptive disease occurring in a school at Rugby—a disease which was declared to be neither measles, scarlatina, nor yet rubella, but which in its entirety presented some of the features of each of these three diseases. In the absence of any recognized name for this newly discovered disease, he called it tentatively the *Fourth Disease*.

His studies of that particular epidemic were confined to nineteen cases, although for some years he had observed similar epidemics leading

\* Read at a meeting of the Pediatric Section, Dec. 28, 1904.

towards the conclusions formed in this. His method of proving this to be a distinct, if not a new disease, was essentially clinical. Briefly summarized, it may be said that children that had already has measles, scarlatina and rubella, were not thereby rendered immune to this Fourth Disease, and still further, that some of those that had this so-called Fourth Disease subsequently contracted measles, scarlatina, and rubella, when exposed to them. Accepting Cullen's law that "one attack of an eruptive fever entails immunity from a second attack during childhood"—to which, as we well know, there are not infrequent exceptions, but which is in the main true—Dukes would account for those observed cases in which children are said to have had measles even three or four times, by assuming that one of these attacks was doubtless this Fourth Disease.

Broadbent and some others in England endorse the claim of Dukes, while others equally eminent hesitate, or decline to accept it.

Bokay (*Deutsche Medizinische Wochenschrift*, October 20, 1904) believes the disease to be a separate entity, and points out that Filatow in 1885 describes something of the kind and terms it rubeola scarlatinosa. Bokay proposes the hyphenated name Filatow-Dukes Disease.

In April, 1904, in the cases to which I shall refer hereafter, Dr. Winfield and myself used informally the equally descriptive term Dukes' Disease, and that name I shall use in this paper.

In this country but little attention has been given to Dukes' claims of having differentiated a distinct eruptive disease, and his views are received with some skepticism. A few writers have incidentally referred to Dukes' writings on the subject, but at best only with qualified acceptance.

French says: "There is much doubt about the propriety of admitting the (Fourth) disease as an entity, and not merely as a form of rubella."

In the International Annual for 1904 the subject is mentioned with a like reservation.

Curtis and Shaw, of Albany, in the *Medical News* of December 20, 1902, report 147 cases of an exanthematous epidemic at Round Lake—66 children and 81 adults. Nowhere else do I find recorded so great a preponderance of adults, either in rubella or in Dukes' Disease.

As a general rule these mild exanthems are confined almost exclusively to children.

And here a word in regard to the progressive differentiation of the exanthemata may not be out of place. In the days of Sydenham, all the eruptive fevers were classed under the general term variola. He observed a class of cases having cer-

tain distinctive characteristics and gave them a separate classification, as morbilli, or measles. Up to near the close of the 17th century, measles and scarlatina were considered as one and the same disease—measles. It seems incomprehensible to us that these two diseases, so unlike as we see them, could so long have been grouped together.

William Moss, in his essay on the management and nursing of children (London, 1781), gives extended consideration to small pox, chicken pox and measles, but does not even mention scarlatina.

Another writer, near the close of the century, treats of measles at length, but devotes less than a single page of his book to that form of measles called the scarlet fever.

About the middle of the last century, rubella became detached, as it were, from its associated congeners as a disease by itself. The question is now raised as to whether rubella includes two or more distinct and recognized diseases.

Rubella is generally admitted to be a multiform disease, varying widely as regards period of incubation, appearance of the eruption, general symptoms and complications. I here use the term rubella as synonymous with and embracing German measles, French measles, rötheln, rubeola notha, rubeola sine catarrho, and epidemic roseola, but not including symptomatic roseola. Whether all these terms truly stand for one and the same disease, or for two or more distinct diseases, fairly admits of discussion.

In April and May, 1904, there occurred in the Home for Destitute Children, in Sterling Place, in this city, 64 cases of a contagious eruptive disease of an unusual character, and these cases constitute the text of this paper.

The first child attacked was an Assyrian boy about nine years old. He had been in the institution for several months, and the only communication with or from the outside world was through a visit from his sister, a young girl, who visited him just two weeks before. Although I do not know that this girl was ill, or that she brought the disease into the Home, I think the circumstantial evidence sufficient to warrant this assumption. This would make the period of incubation about fourteen days, which, so far as we could determine, was the average time of all the cases.

The first thing that called attention to the boy was the eruption on the face, particularly around the mouth. It soon extended to the cheeks, forehead, neck and downwards over the body and limbs. The time to the full development was

about one day. It soon began to disappear in the order of its onset, and at the end of two or three days it entirely disappeared. In some few cases slight macules remained for two or three days longer.

The eruption was distinctly papular, small elevations close together, pale in color, with no tendency to bat's-wing grouping, except that in perhaps 25 per cent. of the cases the eruption over the loins and upper portion of the buttocks was manifestly crescentic, as in true measles.

Not one of the children was really ill. In only a few was there any elevation of temperature, none above 100° F. There was no increase in pulse or respiration, no coryza or bronchitis, no loss of appetite or sleep. There was no pruritis, and in only one case was there noticeable desquamation. No enlargement of the glands, no complications, and no sequelae.

To this broad statement there were perhaps a dozen exceptions—cases in which there was efflorescence in the fauces and adjacent structures, and Koplik's spots were present as in measles. This last notable feature rests not on my observation alone, but can be verified by Dr. J. M. Winfield, who saw a number of the cases.

So far as I am aware, no mention has ever been made of Koplik's spots either in rubella or Dukes' Disease.

Indeed Holt says, "Koplik's spots form a valuable means of distinguishing measles from rubella." The obvious inference, therefore, is that Koplik's spots are not found in rubella.

Corbett says that in rubella there is no tendency to form crescents. In these cases, at the height of the eruption, the crescentic form was very evident on the loins and buttocks.

The history of this first case represents the general type of all these cases, with one notable exception. That exception was a boy four years old, in which the eruption was a bright scarlet, covering uniformly almost the entire surface of the body and limbs, and looked like a typical case of scarlet fever. There was absence of fever, however, and all of the usual symptoms of scarlatina, except the eruption alone. So marked was the appearance that it was deemed prudent to isolate the child until in a day or two the rash began to disappear, and the disease followed the general course of the other cases. This case demonstrated conclusively that, notwithstanding the wide difference in the form of the eruption, the disease was one and the same. This was the only child of the 64 that was kept in bed for even

one day, and the only one in which desquamation was positive.

The ages of these children were from four to thirteen years; only one adult, a woman of thirty-two, contracted the disease, although others were fully exposed to it.

Of rubella, Anders says, "Sore throat is nearly always present, with enlarged tonsils, dry cough and bronchitis. In severe cases the post-cervical, axillary and inguinal glands are involved."

Corbett says, "Tonsils swollen, with hoarseness and cough, in 96 per cent. of all cases."

These symptoms, with fever, appear to have been present in the cases reported by Curtis and Shaw under the name of rubella scarlatiniforme, and these seem to correspond in the main with those on which Dukes bases his classification of an independent disease.

The difference in the period of incubation is one of the basic points on which Dukes lays much stress in his differential diagnosis. Unless this is established beyond peradventure in a large number of carefully observed cases, it does not seem sufficient to warrant a new classification. It is a well recognized fact that in all the exanthemata, whatever may be the average, the incubation period varies widely in the extremes, as well as in different epidemics.

In these cases that I report, the symptoms and course of the disease do not correspond with the generally accepted features of rubella, nor yet with those described by Dukes. If for want of a better name they must be classed under the head of rubella, with the one given exception they belong to the morbilliforme type.

I have studied with some care Dukes' differential diagnosis between rubella and the Fourth Disease, in which he sets down in parallel columns the characteristic features of each, and I am forced to the conclusion that they are so almost exactly alike that one heading would answer for both, and the columns or headings might change places without making any material difference.

The importance of a correct diagnosis lies not in the gravity of the milder forms, but in the liability of mistaking them for the diseases that are truly serious. It is often impossible to diagnose correctly eruptive disorders at a first visit. This the health authorities expect us to do, but when a day or two later our diagnosis is found to be erroneous, some of us know by experience that it is not easy to convince the authorities that our report should be amended, and an unnecessary quarantine raised. Still more



serious is it when a patient with a trifling eruption is removed to the hospital for contagious diseases, when, or on the way in the ambulance used indiscriminately for all kinds of contagious diseases, except perhaps small pox, the unwitting victim stands a good chance of picking up the real thing.

In view of all these facts, and in the light of your individual experience, is there a Fourth or Dukes' Disease?

This is the question that I submit for your consideration.

### MIRROR WRITING IN THE RIGHT HANDED.\*

BY ROBERT KINGMAN, M.D.

Some years ago the teacher of a small school in Bermuda so injured her right hand that she could not for some time set copy for her pupils. On attempting to use her left hand for this purpose, she easily wrote the letters and words, but in mirror writing and until the recovery of her right hand the children read their copy with the aid of a mirror. Recently three of these pupils came under the writer's observation, and on being tested for mirror writing were all found capable of writing in this fashion easily and rapidly with either hand. The question naturally arose as to whether in them this was a natural faculty or the result of imitation and early example, the consideration of which led to a review of the subject of mirror writing and an investigation into its occurrence in the right handed.

The antiquity of mirror writing is attested by ancient Greek and Roman pottery exhibiting inscriptions in this style, and there is extant a notable manuscript written in the same fashion—the Codex Atlanticus of Leonardo da Vinci in the Ambrose Library at Milan. That versatile and talented genius is generally believed to have been left-handed, and as such may have been in possession of the faculty of mirror writing, making use of it in this case as a semi-secret method; but as it is also recorded of his last days that his right arm was paralyzed, and as the manuscript was one of his later productions, it is likely that this style had become the only one possible for him at that time.

Anthropologists state that primitive man, with the quadrupma, apes and monkeys, was ambidextrous; they base their conclusions on the facts that the earliest implements known are adapted

in equal numbers for the use of the right and left hands. The development of hunting and warfare produced a gradual change in this proportion so that later findings show right handed implements predominating over left in numbers, as the use of the left hand became more passive in character in defending the heart on that side, while the right was exercised more actively in offense. An interesting relic of the last days of general ambidexterity appears in the early Greek and Roman inscriptions in the style known as "boustrophedon" in which the lines were written alternately from left to right and from right to left.

Mirror writing was first scientifically discussed to any extent by Erlenmeyer in 1879, by Ireland in 1881 and by Buchwald and Hughlings Jackson about the same time; Ireland's monograph on the subject has been generally referred to as the basis of our knowledge by subsequent writers. This interesting phenomenon is a form of chirography in which the writer runs his words from the right margin toward the left as is the natural method in Arabic and Etruscan; the letters and words are placed in the same sequence as in ordinary writing, but are formed reversely as to the directions of right and left, though not upside down as has been mistaken by some. It may be seen in the impress left on a blotter and may be read by reflection when held before a mirror—hence its name; or, if the paper used in writing be sufficiently thin or translucent, mirror writing will appear through the back of the sheet as ordinary writing, while the converse also is true—that is, ordinary writing when held up to the light appears from the back as mirror writing.

Anyone can produce a specimen of mirror writing by using pencils simultaneously in each hand, starting in the middle of the page and writing with the left hand toward the left and with the right toward the right; in this procedure the movements in forming the letters with the right hand are involuntarily made just in advance of the corresponding motions of the left, thus serving as a guide to the latter hand. Experience has shown that almost any intelligent person, with a little practice for the more complicated letters, will soon become able to write in mirror style with either hand alone, and furthermore that children, women and those of a highly nervous organization will become most proficient. It has been stated that mirror writing is more common in England than in America, 5.1% out of a group of 450 examined in the former country possessing this faculty. Figures for this country have not been given, but any apparent disparity is un-

\* Read before the Brooklyn Society for Neurology, December 29, 1904.

doubtedly due to the fact that little has been done here in the way of systematic investigation, and a series of examinations among our admittedly neurotic population should show a far greater percentage than the above. Up to the present time, with the exception of some slight inquiry among the left handed, only cases in which the faculty has been revealed by disease or accident are recorded, and even the English figures quoted seem to have been the result of a more or less superficial testing.

Mills, in speaking of a man who wrote with both hands simultaneously, the right in ordinary and the left in mirror writing, refers to the performance as an acquired sleight-of-hand. In view of the fact, however, as previously stated,

dexterity of the pianist or artist. For this reason writing with the left hand is more easily done from right to left, just as the right hand moves naturally from left to right. The following experiment of Sir Samuel Wilks will further carry this idea to the point of showing that a reversed formation of letters also comes naturally to the left hand. If the hands and forearms are rolled around each other in front of the body, the same movements are performed by each, and the same muscles, stimulated by like nerves, employed; continue these motions, gradually separating the hands and abducting the arms until they are extended laterally at right angles to the body. Now the right will be making a right-handed spiral and the left a left-handed spiral, while a pencil placed

No. 3. E. B. Male Age 30.  
 was of hand and was  
 the first time written  
 was the first time written  
 the first time written  
 I. O. K. for waiter

that anyone who is in the habit of writing to any extent, can perform this feat of using both hands with little or no practice, it should rather be attributed to the calling into play of a normal function long suppressed. Many who have been examined were able in five or ten minutes at their first trial to perform mirror writing with either hand, a time too short for learning it as an acquired trick. As has been stated by Rudolf, mirror writing is as natural a method of chirography for the left hand as ordinary writing is for the right. In proof of this there is in the first place the fact that centrifugal movements for the hand or arm are much more graceful and easy of execution than centripetal, the latter being to a certain extent hindered by the trunk. This is apparent not only in such common-place movements as whittling, turning a screw-driver and winding a watch, but also in the specialized or acquired

in either hand will, by a continuation of the same movements, trace ordinary writing on the right side and a reversed or mirror writing on the left.

In such a manoeuvre it is most natural to believe that one is using a graphic motor picture in the left cerebral hemisphere to guide the motor centres of the right hand and finger muscles, while conjointly the muscular movements of the left hand are being governed by a reversed graphic picture in the right brain. That either the left or the right hemisphere or a combination of the two may act as above in one and the same individual, or even that any one of these three may govern the entire somatic and psychical existence is conclusively proved by the case of dual brain action recorded by Dr. Bruce. This patient underwent in succession three distinctly separate periods of existence, each with an entire change of personality. In one he spoke and understood only

Welsh, was noisy, excitable and mischievous, entirely left-handed and wrote in mirror fashion. In another he spoke and understood the English tongue, was quiet and melancholic, strongly right-handed and wrote in the ordinary style. The third phase showed a blending of the characteristics of the two previous, especially noteworthy being the fact that he was at this time ambidextrous and wrote both mirror and ordinary writing. This change of handedness, not only for writing, but also for all other muscular movements, together with the change in mental habit and ability, shows undoubtedly an alternate dominance of the two hemispheres, and indicates that the functions over which the brain presides lead in their development to a symmetrical growth of centres in each side. While it is admitted that the right brain contains potentially centres corresponding to all those in the left they are believed to be in a state of comparative non-development. It is probable that the degree of their development varies with the extent of the individual's training along special lines.

The occurrence of aphasia with left hemiplegia in the left-handed indicates that there certainly is a complete latent zone of language in the right brain. There are facts which suggest that a graphic centre is developed to a greater or less extent in the right brain conjointly with that in the left in two ways. *First*, to some extent co-ordinately with the education of the left. That the training of one hand in certain movements involves the education of the corresponding motor centres on both sides can be seen in the fact that children in performing an unaccustomed movement with one hand are often unable to suppress a simultaneous and similar action on the part of the other hand, until the movement has by habit become practically automatic. Another suggestive fact along this line is the experience of Dr. F. J. Allen, an ambidexter who became an accomplished mirror writer, and records that on learning to write a new alphabet with his right hand he found that he could write the same with his left hand in mirror fashion with no separate training of that side. *Second*, by what may be termed an overflow process into the right brain, occurring either concurrently with the course of development or because the left centres have after a certain time arrived at a condition of maximum degree of training. In support of this theory are cases of total destruction of Broca's convolution in which the patient had during life retained some power of motor speech immediately after the occurrence of the lesion, there-

by showing a functional use of the right inferior frontal convolution, before the latter could have undergone any special training for the education of a compensatory function.

Therefore in the education of centres for ordinary right hand writing, corresponding centres in the right brain are at the same time developed for the mirror form of writing with the left hand, so that one instinctively adopts the latter method in case of disablement of the left brain or right hand, unless the natural reversed image, and consequently the muscular movements for this latter, is transformed by the will. In this connection Rudolf again states that ordinary writing is for the left hand as artificial a form of chirography as mirror writing is for the right, the reason for this being that both call into action an unusual set of muscles in addition to their being performed centripetally. Those, then, who are weakened by disease, together with imbeciles and idiots, write naturally in mirror fashion when using the left hand, being unable to make use of sufficient will power and nervous energy to transform the reversed image of the right brain into one which would result in the ordinary form of writing. On the other hand a healthy person with a well educated and exercised brain is able to perform this transposition of graphic memory pictures at will, and hence to write in both forms with either hand. An instructive case, showing the necessity of employing a considerable amount of will power for this transformation, is that recorded by Dr. J. T. Carpenter, Jr. The patient, an expert stenographer, was forced by a gunshot wound to make use of his left hand, and found that unless he employed steadily concentrated mental attention he invariably tapered off into mirror writing in his work.

A seemingly less plausible explanation of the physiology of mirror writing has been offered in the suggestion that two sets of graphic motor pictures in the left brain govern the movements of both hands, one set of pictures being reversed like a photographic negative: and Mills, in developing this theory, has laid particular stress on the close association of the two hemispheres through the corpus callosum.

Because of these facts, when attention was first called to mirror writing it was most often seen in the feeble minded, the neurotic and the subjects of organic cerebral disease, and being a condition associated with these disorders was looked upon as inherently a pathological phenomenon. In time, as the condition was found also to be almost co-existent with left-handedness,

this opinion was modified until mirror writing came to be considered as the physiological form of chirography for the left hand, and it was recognized that its appearance in the weak-minded and in those in whom the left brain or right arm were disabled was the making use per force of a suppressed natural function rather than a disease symptom. Those, however, who placed left-handedness in the category of physical stigmata were not persuaded to class mirror writing as other than a pathological condition, or at least as a sign of degeneration. But, as has been indicated above, man was originally ambidextrous, and while left-handedness is now in part a manifestation due to heredity, it is to a much greater extent an acquired condition, depending upon the early training and associates of the child. No less an authority than Sir Wm. R. Gowers states that in his opinion children are born with an equal tendency to use either the left or right hand, one handedness being brought about in the course of growth and development, partly from hereditary and partly from educational influences, though he believes the chief, and possibly the entire, cause to be educational. Dr. Jas. Shaw's experiment of placing articles in the left hands of two children previously unbiased in the use of their hands, and tending them with the left hand, resulted in such proficiency of that member on their part, that in later life it was found almost impossible to bring the right up to the standard of the left hand. In accord with this idea is the fact that a dog or other animal will become right or left sided in doing tricks depending upon the hand used in teaching by his trainer, so that it is evident that a left handed nurse must constitute a determining factor in this part of the child's development, and therefore that left handedness in a parent is more likely to exert an influence after birth than before.

To the opinion that mirror writing is a physiological condition in the left handed and ambidextrous little has been added, although Dr. Allen suggests that it may not be very rare, and probably exists to a greater or less extent in all individuals unobserved, unless some disease occurs to cause its discovery, but no statistics have been offered in support of this assumption of its frequency. Cases of what may be termed four-handed writing have been reported; notably one by Rudolf of an accomplished and educated woman of twenty-nine who wrote readily both mirror and ordinary writing with either hand, and read all these forms with comparative ease. In this case, however, as in others of a like nature,

the subject was markedly left-handed, and mirror writing with her left hand had been her natural method originally, while the other forms were acquired later, the ordinary style of necessity, and the right-handed mirror form as a diversion.

After having examined hemiplegics and the left-handed for mirror writing with the usual result of finding that the majority of these people would write in mirror style, if not spontaneously, at least with very little practise on being shown what was desired, a systematic examination of right-handed individuals in the same manner was begun. The results did not bear out the idea generally conveyed in previous discussion of the subject, namely, that the function of mirror writing does not exist in individuals to any great extent in a condition to be spontaneously and immediately exercised. The examination of twenty apparently normal persons, all right-handed, resulted in finding ten that could write in mirror style at the first trial, with either hand. In testing, little explanation of what was desired was given, the object being for the subject to subconsciously call upon the reversed image present in the right brain, not to copy the letters from a verbal description or, to study out a reversed formation. Therefore they were simply told to start at the right margin and to write backward toward the left, and the reversed motions when once started were guided without any particular attention and without allowing time to study out how the next letter should look. Trials were made with the left hand first, notwithstanding their insistence upon inability to do anything with that hand, afterwards testing the right. In selecting the subjects above, the following conditions were also observed: First, that the individual should be right-handed, never having used the left hand for writing; second, that he should not have written or practised mirror writing previously with either hand. The ten who conformed to these rules and wrote in mirror style readily on the first attempt, without any special instruction or time for practise, may be called spontaneous mirror writers, and evidently brought into play a previously existent but dormant faculty.

In talking with patients and others on this subject it is surprising to find how many of the laity know of mirror writing, and the number of medical men who have never even heard of it. Many remember having written in mirror style with their right hands during their school days, for amusement or for carrying on a secret correspondence with other children. Another fact also

appears—that in later life they had come to look upon this curious faculty as a sign that they were in some mysterious way different from ordinary people, and for this reason were reluctant to make a trial or furnish a specimen, even if they knew of their ability to produce mirror writing. Inquiries have had more positive results among the intelligent and well educated as well as among nervous types, which confirms the theories that considerable mental ability is necessary to enable one to call up the long suppressed image in the right brain, and that the latter hemisphere has received a certain amount of overflow and simultaneous development in connection with the education of the left. It is interesting to note that the left-hand writing, in spite of previous non-use of this side, is invariably more graceful and correctly formed than the right, allowance being made for a certain amount of tremor on the part of the unused muscles. Writers themselves generally notice that the movements of the hands and the curves of the letters are more naturally and easily made with the left than the right hand, which is due to the comparative ease of centrifugal motion and the fact that in left-hand mirror writing muscles are used analagous to those employed in right-hand ordinary writing.

In conclusion, although mirror writing has been already recognized as physiologic for the left hand and as being often met with in those who use that hand for writing, it can further be assumed to be present potentially and for both hands in every individual who has learned to write. As the graphic centres of the left mid-frontal convolution store up graphic motor pictures, analagous pictures reversely formed are accumulated in the corresponding centre on the right. The former may then be called into play with either left or right hand to produce ordinary writing, while similarly a right graphic centre may be correlated with different motor centres to produce mirror writing in either hand. Both of these graphic picture centres may also be correlated with the appropriate muscle motor centres to produce mirror or ordinary writing through the medium of the toes, lips, elbows, or any other part to which suitable apparatus can be attached.

From notes and specimens obtained the following have been selected as being of special interest for presentation. Each one is the result of a first attempt and was written without any practise; the writers are all strongly right-handed.

No. 1 shows six specimens obtained from the members of one family through three generations.

No. 2 shows the writing of the three pupils

mentioned as having been under the instruction of a teacher who wrote in mirror style for a time.

No. 3 is part of a letter written in mirror fashion by a young man who is in a sanitarium on account of sexual perversion.

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#### TRANSACTIONS OF SOCIETIES.

##### THE MEDICAL SOCIETY OF THE COUNTY OF KINGS.

STATED MEETING, FEBRUARY 21, 1905.

The President, J. W. FLEMING, M.D., in the Chair.

There were about 200 members present.

The meeting was called to order and the minutes of the previous meeting read and approved.

#### REPORT OF COUNCIL.

The following candidates for membership have been accepted by the Council:

- William E. Beardsley, Bellevue, 1878.  
 Frederick E. Hamlin, N. Y. University, 1893.  
 George D. Hamlin, N. Y. University, 1883.  
 Charles G. O'Connor, P. & S., 1899.  
 Charles L. Stone, Cornell, 1902.

The following communication from the Council was read by the Secretary:

At the December meeting of the Society resolutions were introduced declaring that the Society was in favor of the retention of a hospital for the insane within this Borough. Since that time considerable progress has been made and a definite proposition is now under consideration by the State and City authorities, which, if carried out, will transfer the Long Island State Hospital at Flatbush permanently to the State. Therefore, it seems desirable that the Society should place itself more definitely on record in this matter, in accordance with the conditions as they now exist.

It is of great importance to the medical profes-

sion of this Borough, that a hospital for the acute insane should continue to be maintained within the Borough, and the best manner in which to accomplish this is to retain the Flatbush Hospital, hence the desirability of passing these resolutions.

Accordingly, the following resolutions were presented, and, on motion, duly carried, adopted:

WHEREAS: The tenure of the Long Island State Hospital at Flatbush on property now leased from the City will terminate on September 30, 1905; and

WHEREAS: The interests of the insane and of their friends require the continued maintenance of a State Hospital within the Borough of Brooklyn and in close proximity to the City Receiving Pavilion at Flatbush, with especial regard to the following considerations:

1. Inability of relatives of many poor patients to visit their friends, should the hospital be moved out of the Borough.

2. A large number of cases committed from the City Receiving Pavilion and from their homes are mentally and physically unfit for travel and should be taken with a minimum of shock to an institution near at hand, thus avoiding a long carriage or railroad ride.

3. The interests of the insane will best be served by affording facilities within this Borough to the medical profession for the observation and study of insanity, to the end that cases of insanity in their incipency be recognized and proper advice given at a time when medical aid may be of the greatest service; THEREFORE, BE IT

RESOLVED: That the Medical Society of the County of Kings requests the proper State and City authorities to co-operate in accomplishing a permanent cession of this property to the State; and further be it

RESOLVED: That copies of these resolutions be forwarded to the Governor of the State, the Mayor and Comptroller of Greater New York, the State Commission in Lunacy, and the Press.

The following resolutions were presented and adopted:

The Committee appointed by the President, at the request of a motion passed by the Council of the Medical Society of the County of Kings, February 15, 1905, beg to report as follows:

WHEREAS: It is the intention of the City officials to provide new and modern quarters for the Department of the Board of Health of the Borough of Brooklyn; BE IT

RESOLVED: That this Medical Society of the County of Kings respectfully recommend to His Honor, Mayor McClellan, the Hon. Thomas Darlington, M.D., President of the Board of Health,

and the Comptroller, the Hon. Edward M. Grout, that the quarters of the Department of the Board of Health of the Borough of Brooklyn, N. Y., be established on Bedford Avenue in the vicinity of this Society's building for the reason that the Department will thereby be brought into closer touch with the medical center of this community.

H. A. FAIRBAIRN,

G. R. FOWLER,

Committee.

The following resolutions were presented and adopted:

WHEREAS: There is now before the State Senate a Bill known as "Senate Bill No. 94," which has for its object the abolition of the office of Coroner in the City of New York; BE IT

RESOLVED: That the Medical Society of the County of Kings endorses the said bill, and urges upon the members of the Legislature, and particularly upon the members from Kings County, to further the passage of the bill by all honorable means in their power; and BE IT

RESOLVED: That copies of these resolutions be sent by the Secretary to Senator Elsberg, the Lieutenant-Governor, the Speaker of the Assembly, and to the members of the Senate from Kings County.

The Chairman of the Legislative Committee presented the following resolutions, which were, on motion, duly carried, adopted:

WHEREAS: Under the present Medical Practice Act of the State of New York, all practitioners of medicine are obliged to show by a diploma that they have graduated from a school of medicine approved by the Board of Regents of the State of New York, and after this to pass an examination held by one of the medical boards of the State Board of Examiners before admission to the practice of medicine in this State.

RESOLVED: That the Senate Bills No. 261 and No. 298, legalizing respectively the practice of Kinesopathy and Osteopathy, if passed, will practically nullify the present excellent Medical Practice Act of this State, and in fact, stamp with the official seal of the State, diplomas from so-called schools of medicine, which could not receive recognition from any reputable school of medicine or university in this country or abroad.

RESOLVED: That the Medical Society of the County of Kings calls upon the Legislature to uphold the present Medical Practice Act, which has made this State preëminent because of its high standard.

RESOLVED: That the Senate Bills Nos. 261 and 298 are attempts on the part of ignorant and un-

qualified men to evade the present law and secure for themselves the rights and privileges now enjoyed only by men who have passed the examination of the State Board of Examiners, and thereby complied with the law and proved themselves fit to be entrusted with the lives of the citizens of this State.

It was moved and seconded that the Legislative Committee be authorized to expend a sum of money not exceeding forty dollars (\$40) for the purpose of sending a copy of these resolutions on the Kinesopathic and Osteopathic bills on the part of each member of the Society to each Senator and Assemblyman of their respective districts. Carried.

#### ELECTION OF MEMBERS.

The following having been duly proposed and accepted by the Council were declared, by the President, elected to active membership:

C. W. Brunner, L. I. C. H., 1891.  
 John J. Colgan, L. I. C. H., 1882.  
 Carl Fulda, P & S., 1901.  
 Sigmund Beck, N. Y. University, 1892.  
 Wm. B. Moseley, Univ. Virginia, 1890.  
 J. E. Thompson, L. I. C. H., 1897.  
 Fred. M. Jacobs, L. I. C. H., 1901.  
 S. A. Marshall, Johns Hopkins, 1902.  
 Abe Hayman, N. Y. University, 1890.  
 S. E. Moore, Univ. Penn., 1898.

#### APPLICATIONS FOR MEMBERSHIP.

Applications have been received from the following:

Robert F. Bliss, 383 Park Place, P. & S., 1901.  
 Proposed by C. H. Goodrich.  
 Seconded by E. W. Skelton.  
 Frank E. Brown, M. E. Hospital, P. & S., 1903.  
 Proposed by W. A. Sherwood.  
 Seconded by T. B. Spence.  
 C. B. Cortright, 1571 Bergen Street, P. & S., 1902.  
 Proposed by Membership Committee.  
 Roger Durham, M. E. Hospital, P. & S., 1903.  
 Proposed by W. A. Sherwood.  
 Seconded by T. B. Spence.  
 John A. Ferguson, 1887 Gates Avenue, L. I. C. H. 1896,  
 Proposed by J. P. Warbasse.  
 Seconded by F. Weisbrod.  
 William J. Flannery, 238 Arlington Avenue, Yale, 1901.  
 Proposed by Membership Committee.  
 Albert J. Keenan, 1146 Park Place, P. & S., 1902.  
 Proposed by Membership Committee.

Inte I. Lourie, 435 Seventh Avenue, L. I. C. H., 1904.

Abraham Moss, 203 Bedford Avenue, Cornell, 1903.

Proposed by R. S. Fowler.

Seconded by G. R. Fowler.

V. A. Pentlarge, 198 Eighth Avenue, P. & S., 1902.

Proposed by Joseph Mezrbach.

Seconded by Membership Committee.

George H. Reichers, 1411 Bushwick Avenue, P. & S., 1900.

Proposed by J. P. Warbasse.

Seconded by F. Weisbrod.

George P. Thomas, 748 Jefferson Avenue, Univ. Penn., 1901.

Proposed by Membership Committee.

#### DECEASED MEMBERS.

The President announced the death of the following:

Homer Lyman Bartlett, P. & S., 1855, member 1859 to 1905, Vice-President of the Society, 1865, Died February 3, 1905.

William Edward Griffiths, P. & S., 1868, member 1873 to 1887, Died February 20, 1905.

The President announced that Dr. Louis D. Mason had presented to the Society a portrait of the members of the New York Academy of Medicine.

A vote of thanks was extended to Dr. Mason for his courtesy.

#### SCIENTIFIC PROGRAM.

PAPER: Observations in Japan and Manchuria with both Armies and their bearing on the re-organization of the Medical Department of the United States Army. By Louis L. Seaman, M.D.

The meeting then adjourned.

JOHN A. LEE,

Secretary.

#### THE BROOKLYN MEDICAL SOCIETY.

The Ninety-eighth Regular Monthly Meeting of the Brooklyn Medical Society was held on the evening of Friday, December 16, 1904.

The President, Dr. WILLIAM B. BRADER, in the Chair.

CLINICAL SECTION: Dr. R. T. WHEELER, Chairman.

I. Dr. WARREN S. SIMMONS: (a) Report of a case of and presentation of specimen of resected intestine. He gave the following history: Man, 28 years old, born in the U. S., with a history of a left reducible inguinal hernia existing several years; had never worn a truss. About 24 hours



before operation the hernia descended, became very painful and irreducible; but on assuming the horizontal position the hernia went back into the abdominal cavity; had uncontrollable vomiting at the time of the descent, which did not cease when the gut went back into abdomen; was constipated and enemata and cathartics were useless, being vomited as soon as taken. Ten hours after the beginning of the attack a small tumor presented in the right inguinal and pubic region which was dull on percussion. Abdomen was distended and tympanitic. Pulse normal. Temperature, 99. About 24 hours after the initial symptoms abdomen was opened at St. John's Hospital by a median incision. Tumor consisted of several thickened and discolored intestinal coils of a dark mahogany color. The obstruction was caused by a band extending upwards from the right inguinal region, completely occluding the ileum. An attempt to restore circulation into the intestinal wall failed, and it was found necessary to resect 33 inches of the gut. An end to end anastomosis was done with Murphy's button and wound closed without drainage. The patient made an uninterrupted recovery, passing the button on the seventh day.

(b) Short history of a case of necrosis of the jaw bone due to an ulcerated tooth. Case was that of a little girl 8 years old, who two months ago complained of severe pain in the decayed tooth with marked swelling on the left side of face. Tooth was removed. Examination revealed a large swelling over the left parotid, with two openings, one to the left of symphysis, the other about the middle of the neck; they connected and discharged pus; dead bone was found at the bottom of each sinus.

Incision was made along the left border of the inferior maxilla and the sequestrum presenting in the wound was removed. Case is presented to show to what an extent an ulcerated tooth may cause necrosis of the bone, and to urge more careful examination in these somewhat common cases.

2. Dr. STEPHEN H. LUTZ presented several specimens of salivary calculi, which he had removed from Wharton's duct.

Letter from Dr. O. M. Dewing, Supt. of the L. I. State Hospital for the Insane at Flatbush, was read. The contents of the letter briefly told is that the lease of the Flatbush Hospital for the Insane expires January 30, 1905, that it has been proposed by the State authorities to abolish said hospital, and have it removed to parts distant from Brooklyn, etc., and he asked that resolutions be adopted (a copy of which was presented at

the meeting) in which the Society be put on record as being in favor of the renewal of said lease, the maintenance of said hospital within the confines of the borough of Brooklyn, not only because of its usefulness in the case of study of cases of insanity by both students and practitioners, but also on account of those relatives and friends who want to visit the insane sick without having to travel 50 miles to do so. That copies of the resolutions be sent to the Governor of the State, the State Commission in Lunacy, and the Sinking Fund Commission of Greater New York.

The resolutions were adopted.

HUGH EDWARD ROGERS, M.D.,  
*Recording Secretary.*

## THE BROOKLYN SURGICAL SOCIETY.

### REGULAR MEETING, DECEMBER 1, 1904.

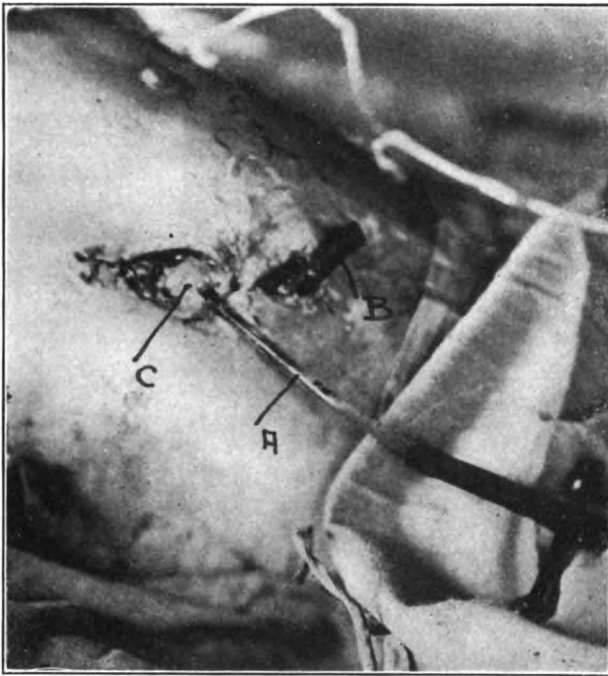
The President, W. B. BRINSMADE, M.D., in the Chair.

#### TREATMENT OF INTESTINAL PARESIS, COMBINING INJECTION OF MAGNESIUM SULPHATE INTO THE INTESTINE AND IN- TESTINAL DRAINAGE.

DR. PAUL M. PILCHER reported the case of a male, aged 18 years, who was admitted to the Methodist Episcopal Hospital June 15, 1904, and operated on by him June 16. A gangrenous appendix was removed. A large amount of pus was present, it being free in the pelvis. There were few adhesions. The cæcal region and pelvis were flushed with saline solution, a glass drainage tube inserted into the cul-de-sac and a rubber drainage tube to the stump of the appendix. Following the operation the pelvic cavity was aspirated through the glass drainage tube every two hours. The patient reacted well from the operation, but later in the day the pulse became more rapid and there was an increasing distention of the abdomen with a great deal of abdominal pain.

June 17th the general condition was not as good as the day before. There was occasional vomiting of light green fluid, and the abdominal distension was about the same. The condition grew gradually worse, presenting all the symptoms of intestinal paresis. Very slight return from enema. All attempts to move the bowels were unsuccessful.

June 21st the wound was laid open and the tubes removed. The wound edges presented a gangrenous sloughing appearance. There was



Photograph showing Catheter (A) inserted into intestine (C), Distention of Abdomen, Drainage Tube (B) in lower angle of wound, Necrotic and unhealthy appearance of Wound.

no attempt at healing and no adhesions of intestines. The first portion of the small intestine which presented in the wound was taken and a purse string suture of silk was introduced, not passing through the mucosa, including an area the size of a ten-cent piece. A small hole was made in the gut and a small sized glass catheter was introduced through it into the lumen, the purse string suture was then tied around the catheter. A large amount of greenish fluid fecal matter with considerable gas escaped through the catheter. The catheter was pushed first upward and then downward in the intestine and more fecal material escaped. Through the catheter the intestine was irrigated as thoroughly as possible with hot saline solution, this solution being allowed to escape immediately. Then three ounces of magnesium sulphate were introduced into the lower part of the intestine through the catheter, the end of the catheter closed and the catheter left in place. The distension was much less marked and the patient more comfortable. After three hours the patient had a fairly good, fluid evacuation of the bowels per rectum. Every two hours the end of the catheter was opened and from ten to twelve or more ounces of fluid fecal matter and gas were passed. The bowels moved twice more voluntarily that day. There was marked improvement in the patient's general condition. The vomiting ceased.

The following day, June 22d, the bowel was again irrigated with saline, and one and one-half ounces of magnesium sulphate were introduced. The bowels moved voluntarily four times. Later in the day the fecal matter through the catheter became yellowish in color. Vomiting had ceased. The abdomen became soft and hardly any distention was present. The patient could retain fluid nourishment in his stomach.

June 23d the bowel was irrigated with saline through the catheter. Normal yellowish brown fecal matter, fairly well formed, escaped around the catheter. Magnesium sulphate, two ounces, again injected into the intestine, and the catheter removed. An attempt to close the opening in the gut with silk Lembert sutures was only partially successful, but the wound looked more healthy.

The patient gradually recovered his full health and later was discharged from the hospital with a fecal fistula persisting. There was very little fecal matter discharged through the fistula, but considerable bile and some undigested food.

November, 1904, the patient was again admitted to the hospital and was operated on by Dr. L. S. Pilcher. An elliptical incision was made around the opening of the fistula and the proximal edges of the skin sutured over it so as to completely close it. A median abdominal incision was then made, and after the breaking up of a few adhesions, so as to free the loop of small intestine involved in the fistula, the area enclosing the sutured fistula was circumscribed by incisions which were carried completely through the thickness of the abdominal wall. The loosened loop of intestine with the attached tissue cut out of the parietes was then dropped into the abdominal cavity, and the defect in the abdominal wall sutured carefully. The mass of tissue containing the fistula was passed under the intervening bridge of tissue and brought out through the median wound. The mass of adherent tissue was dissected away from the fistulous opening, and it was found possible to close the opening in the gut by Lembert sutures of silk. This having been done the gut was dropped back into the abdominal cavity and the median wound closed. The patient made an uneventful recovery.

Dr. Pilcher, continuing, said that injecting saline cathartics into the bowels in cases of intestinal paresis is by no means new, nor is the establishment of an artificial anus in these cases an untried procedure. In this case, however, the two were accomplished in a new way. It did

not seem sufficient simply to inject the magnesium sulphate and then close the opening, and the condition of the tissues was such that it was not thought wise to make an artificial anus. The object of the procedure was to allow a certain amount of gas and fecal matter to escape, to irrigate as far as possible the intestine and to stimulate normal peristalsis.

This might be accomplished in another way. The catheter could be introduced in this case and the operation carried out as described. Then the opening could be closed, and repeated again when necessary using different portions of the gut each time.

#### *Discussion.*

DR. H. B. DELATOUR thought Dr. Pilcher's case very interesting, and that it represented a condition which we are brought face to face with very frequently. The method of treating intestinal paresis which was so successful in this case was one that we should feel called upon to congratulate the operator for having used.

The method of closure of the artificial anus seemed to him to be more complicated than there was any need of. In cases of fecal fistula it had been Dr. Delatour's custom to make a circular incision about the fistulous opening, and to the median side at the same incision to carry the opening directly into the peritoneum and there meet the intestine at that point; then carry the incision with the finger inside the peritoneum around the fistulous opening, so that that portion of the gut can be lifted out at the same opening where the original operation had taken place. In that way less of the intestine has to be handled, there is less exposure of the peritoneum and there is only one abdominal wound. He has had a good many of these cases to operate upon, and they have all been very satisfactory. He said he could not see the necessity for making the median incision in such a case as the one presented.

DR. A. T. BRISTOW said that he had followed still another method occasionally in closing the openings of artificial ani, which has some merits, although he has usually pursued the course which Dr. Delatour just mentioned. There is a procedure which he first saw described in Greig Smith's work on Abdominal Surgery, which consists in stripping the parietal peritoneum without opening it at all, until stripped back far enough to invert the intestine without opening the abdominal wall. He has used it and closed the opening in the gut, and the whole

wound without cutting the peritoneum at all. He has no particular hesitancy in opening the peritoneum, but there is perhaps sometimes an added risk in opening the free abdominal cavity. The making of the median incision he thought would be a good plan where adhesions were complicated and it was difficult to isolate the coil of gut, but in ordinary cases he believed the closure could best be made as Dr. Delatour had detailed.

DR. T. B. SPENCE said that it seemed to him that this method which Dr. Bristow had mentioned rather than taking away the risk of operation would add to it. In that method he does not get intestine with the peritoneum face to face at all. He gets some scar tissue and perhaps some of the wall of the gut with peritoneum torn from it, and it seemed to him to be adding a risk by not going into the peritoneal cavity. He should be inclined to think that one wound would be enough to get into the abdominal cavity. He saw Dr. Pilcher's case at the worst stage and was very sure that the operation done on the patient saved his life.

DR. G. WACKERHAGEN understood Dr. Pilcher to say that he flushed the peritoneal cavity after pus had escaped into it during the operation. He wished to say that in these cases he was in the habit of wiping out the pus and draining with sterile gauze. He was satisfied that this procedure was preferable.

#### PAPILLOMA OF THE OVARY WITH SECONDARY PERITONEAL DEPOSITS; OPERATION; CURED.

DR. H. B. DELATOUR reported the case of a woman who gave a history of enlargement of the abdomen which was associated with ascitis. The ascitic fluid had been repeatedly drawn off, and as repeatedly returned. The fluid was not blood stained. A diagnosis of papilloma of the ovary was made.

The abdomen was opened by ordinary median incision and a large quantity of serum evacuated, and in the pelvis was a large papillomatous mass. When removed it was found to consist of two masses composed of each ovary, which had evidently grown to a certain size, and then the capsule had ruptured and allowed the contents to roll out, so that this mass presented instead of the rounded ovarian surface. The first impression that it gave one was that it was a case of carcinoma, and it struck him at first that he had to deal with such a condition. The question as to the advisability of operating and trying to remove the mass came to his mind, and he went

ahead and successfully removed practically all of the tumor. He found engrafted upon the parietal peritoneum several smaller masses of the same character as depicted in the illustration in Kelly's book. The wound was closed except for the lower angle where a drainage was established and kept up for a few days, during which time the patient went on with a moderate temperature; and then it began to go up a little, getting up as high as  $101\frac{1}{2}^{\circ}$ . Her abdomen began to distend. It was dull over the lower part, and on August 11th Dr. Duffield aspirated and withdrew about ten ounces of serum. This gave no relief to her symptoms, but continued to drain for several days. It was supposed that it was a reaccumulation of fluid in the abdominal cavity. Dr. Delatour saw her once or twice in the meantime and there was abdominal dullness. The breathing was oppressed. There was, however, nothing like the amount of distention that had existed when she came into the hospital. On August 23d, twelve days after the tapping, there was a sudden rupture in the line of the incision and an immense quantity of pus was evacuated. The woman had no chill and had no temperature; the temperature which had existed was somewhat irregular, but they had not considered that she had pus anywhere. From the description he received the quantity of pus was almost marvelous, that such an amount could be contained within the body. The wound was enlarged, and for several days this large quantity of pus continued to flow away. Gradually it subsided and the case ran on for some time before the wound entirely closed, and she was discharged from the hospital on October 7th.

There was no apparent cachexia in this case. There were none of the ordinary symptoms of carcinoma, and it was fair to believe that this was a case of simple papilloma. Through a mistake on the part of some of the hospital attendants the specimen was laid aside without being placed in a proper preservative fluid, and the Doctor was, therefore, unable to present the specimen as he had wished.

About this time Dr. Delatour ran across an article by Pozzi in the American Journal of Obstetrics, in which he treats of papillary cysts, and calls attention to their non-malignant character and the successful treatment of them by operation. As Dr. Delatour looked back on past cases he knew of at least two, in one of which operation was abandoned, because the cyst was supposed to be a carcinoma, and one case in

which the surgeon reluctantly completed the operation, and the patient made a complete recovery and to his knowledge was well six years afterwards.

#### *Discussion*

DR. J. P. WARBASSE thought this a very important case. He believed Dr. Delatour really minimized the mortality in these cases. This is really one of the most malignant and yet anatomically benign conditions, which we have to deal with. Pathologically and anatomically the condition is not a malignant growth, it is not carcinomatous or sarcomatous, and yet the mortality of these cases is very great. The papillomatous deposits throughout the peritoneum continue to produce an ascitic condition; the papillomatous deposits increase; the patient emaciates and dies. Often we see a carcinoma develop from the papilloma. He knew of two cases of this sort in which this has occurred; the tumor was removed in each case and papillomatous deposits developed throughout the peritoneum. Continuing to develop ascites, the patient was repeatedly tapped. Further operation was impossible to remove the numerous deposits, and the patients died. The mortality statistics he was not familiar with, but it is nearly as great as in carcinoma of the ovary.

Another peculiar condition about these cases is the proneness to undergo maglignant degeneration, and he knew of two cases also in which carcinoma developed in the abdominal wall following the removal of a papillomatous ovary. Microscopical examination of the original tumor showed this to be a so-called benign papilloma of the ovary; the patient died of carcinoma of the abdominal wall with metastases, the tumor presenting a typical picture of carcinoma.

Dr. Warbasse thought the interesting feature of Dr. Delatour's case was the suppuration, and he believed that it was the suppuration that saved this patient's life. Suppuration developed in the portion of the peritoneum bearing the papillomatous deposits, and the fibrinous plastic deposit upon the peritoneum containing these papillomatous deposits covered them with new plastic material, which resulted in their obliteration and inability to proliferate further, and it was the suppuration with its plastic results that saved this woman's life.

As an illustration of the maglignancy of these growths Dr. Warbasse recalled a case which he had seen in which metastases occurred in the pleura.

DR. A. H. BOGART said that some three years ago he had operated on a case very much the same as Dr. Delatour's. It was a young woman that Dr. Bristow saw in consultation with him at the County Hospital. The patient was a nurse 30 years of age. She had not been sick long. She had been on duty, and the first thing she noticed was that the abdomen was increasing in size. When he saw her the only thing he could make out was that she had a cachetic appearance, her abdomen was enlarged, there was free fluid, and no tumor could be found.

He operated and immediately upon opening the abdomen a lot of fluid escaped, and the omentum which first presented was the seat of a large papillomatous growth. This was removed first. He then found both ovaries equally cystic and they were removed. Then he found the caecum involved and the peritoneum everywhere was studded with these growths. After a portion of the omentum and the ovaries had been removed, he washed out the abdomen and closed it, except at the lower portion where he left a drain. She made an uneventful recovery from this operation. The drain was taken out at the proper time and the abdominal wound closed.

She recovered and was quite well, sufficiently well to go to her home in Canada, but after she had been there three months she was taken ill again and came under the care of Dr. Armstrong, who wrote that she developed a pleurisy of the right side, and that he aspirated her three or four times, and finally she died. Whether or not there was a recurrence in the abdomen or not he could not say.

DR. W. L. DUFFIELD felt that he would have to disagree with Dr. Warbasse about the suppuration saving this patient's life. He had an opportunity to see the patient constantly in Dr. Delatour's absence. In aspirating the trocar and canula were introduced through the lower part of the incision, and he always felt that the fluid he obtained was directly from the peritoneal cavity. The wound opened at a point considerably higher up, and as Dr. Delatour said the quantity of pus discharged was simply enormous. This patient was sitting in a chair surrounded by several blankets when the abscess ruptured. Her own clothing and the blankets were saturated with pus and the pus extended for possibly two feet in every direction from her on the floor. A day or two later she was anesthetized and this opening enlarged, and although he attempted to reach the circumference of the cavity

with his fingers, he was unable to do so, and yet it seemed as though the cavity was more to the upper part of the abdomen rather than in the pelvis. The examination of the abdomen prior to both tapplings and the subsequent discharge of the pus showed a flatness extending down into the left flank and lower abdomen and some tympanities on the right side of the abdomen above the crest of the ileum, so that it seemed to him that this collection of pus was not intraperitoneal, but rather between the peritoneum and the muscles.

#### INTESTINAL OBSTRUCTION DUE TO ADHESIONS.

DR. A. H. BOGART reported the following case: A. R. Age, 23 years. Russian. Female.

Previous history: Menses began at thirteen; regular. Married two years; one child. Menses somewhat irregular for the past few months. Always well until three to four months ago, when she had an attack of appendicitis and was operated upon at Beth Israel Hospital, New York.

Present illness: Began suddenly two days ago with severe pain in the abdomen which was not localized to any particular point and was followed by collapse and vomiting. Has had severe pain associated with persistent vomiting and obstinate constipation ever since.

Examination: Patient presents the appearance of being critically ill. Has an anxious expression and coated tongue. Abdomen generally tender, but not markedly tympanic. Vaginal examination reveals nothing of importance.

Urine examination, negative.

Blood examination shows: Red blood cells, 4,000,000; leucocytes, 18,000; haemoglobin, 65 per cent.

Repeated high enemata proved ineffectual and patient's condition if anything, grew worse, vomiting almost incessantly. Vomiting clear watery, with occasional curds of milk. Pain over the abdomen was still present. Tympanites not marked. Patient's general condition so bad that it was deemed advisable by the house surgeon, Dr. Kane, to give her an infusion of saline solution which resulted in considerable improvement. Patient was seen by Dr. Bogart at two in the afternoon about three hours after admission, and the diagnosis of intestinal obstruction confirmed. A median incision was made about four inches in length. Upon opening the abdominal cavity the usual picture of intestinal obstruction was found, viz.: sero-sanguinous fluid, deeply congested and dis-

tended intestines. Search was then made for the location of the obstruction. After several feet of the small intestines had been examined, a bleeding area was found about one and a half inches in diameter near the attachment of the mesentery to the gut, the mesenteric vessels having been torn in breaking up adhesions. This bleeding, which was profuse, was controlled with much difficulty owing to the friable condition of the tissues.

Still further search revealed a similar area which had been torn loose and beyond this point the intestine was found to be collapsed, showing that the obstruction had evidently been at this point. Bleeding was controlled and abdominal cavity flushed with normal saline solution. Abdominal wound closed with silkworm gut sutures. Patient suffered considerable shock and was given a second infusion of thirty ounces saline solution.

Six P.M. Patient had a severe chill, became markedly cyanosed and pulseless, active stimulation however brought about reaction and by seven o'clock her general condition was much improved though she was still vomiting frequently dark brown and occasionally greenish fluid.

Ten P.M. Pulse, 140. Temperature, 102° Complains of considerable pain at site of the wound.

Patient passed a fairly comfortable night. Bowels moved several times during the next twenty-four hours, and from this time the patient went on to an uninterrupted recovery.

#### COMPOUND FRACTURE OF THE PATELLA.

DR. A. H. BOGART reported the two following cases:

Case 1. F. M. Age, 14 years. Female.

On September 5th, about two hours before admission patient was riding on the "Loop the Loop" at Coney Island, when she slipped under the strap, her left knee coming in contact with some part of the ironwork of the structure. She was removed to the Emergency Hospital and from there to the County Hospital where Dr. Bogart first saw her.

Examination revealed: A transverse, lacerated wound over the left knee joint about three inches long, a transverse fracture of the patella just above its attachment to the ligament. The wound had been thoroughly disinfected by the House Surgeon immediately upon admission.

Operation: Wound was again thoroughly

cleansed with soap, water, ether and bichloride and the joint cavity irrigated with saline solution. The two fragments of bone were then united by a single suture of heavy silver wire, and the capsule sutured with interrupted sutures of chromic gut, the skin wound sutured with silkworm gut. An opening was now made on either side of the joint and two rubber drainage tubes passed through from side to side beneath the patella. Sterile dressings and a Volkman splint were then applied. Patient reacted well from the anesthetic, no vomiting. During the night patient complained of considerable pain in the knee.

September 6th. This morning patient has very little pain, and her general condition is quite satisfactory.

September 12th. The temperature having remained normal and there being no other indications for dressing the wound it has not been disturbed until to-day. Tubes removed; wound perfectly sterile. Two small drains inserted, one in each wound. Plaster cast applied. Later fenestra were cut for the purpose of dressing the granulating areas left after removal of the tubes.

October 13th. Patient is discharged cured, having made an uninterrupted recovery. The knee joint admits of slight flexion and extension which will probably be much increased by passive motion and massage.

Case 2. W. M. Age, 26 years. Male. Ireland. Driver

While driving a coal wagon on September 29th patient was kicked by a horse in the left knee, inflicting a ragged wound over the patella. He was seen by a local physician who advised his removal to the hospital. On admission was taken immediately to dressing room where examination revealed a transverse ragged wound about one and a quarter inches long over the middle of the patella, in addition to this there was found a fracture of the patella into three fragments, the lower fragment being divided into two. Under general anesthetic the wound was thoroughly scrubbed and rendered as aseptic as possible by the House Surgeon and an antiseptic dressing applied temporarily.

Operation: Under ether anesthesia the wound was again disinfected and enlarged. The two lower fragments were then united by means of Kangaroo tendon and the upper and lower fragments with silver wire sutures; capsule sutured with chromic gut and the skin with silkworm gut

sutures. Counter openings were then made and drainage tubes drawn through the knee joint in precisely the same manner as was done in the first case. The limb was then immobilized on a Volkman splint. Patient suffered no depression as result of this operation and recovered from his anesthesia with none but the usual phenomena. The temperature and pulse having continued normal this dressing was not disturbed until the tenth day when the drainage tubes were removed. From this date patient made an uninterrupted recovery.

A remarkable thing in connection with this case is the fact that this patient was able to walk from Nostrand Avenue to the County Hospital, a distance of perhaps a quarter of a mile, with so severe an injury.

INTESTINAL ANASTOMOSIS, WITH THE AID OF  
ACCESSORY SUPPORT TO THE INTESTINAL  
WALL.

DR. GEORGE WACKERHAGEN read a paper on this subject, for which see *BROOKLYN MEDICAL JOURNAL*, page 105.

*Discussion.*

DR. J. P. WARBASSE said that he was interested in Dr. Wackerhagen's bread material tubes. A tube of that sort would facilitate the application of sutures very much, particularly if one is not deft and handy in introducing sutures. He stated it as his belief that the Murphy button is a temporary expedient, and in the course of time surgery is going to reject it. Whether we shall adopt a method such as Dr. Wackerhagen has presented or not, he felt, is a question. Every surgeon has a different method—a method which seems particularly adapted to his own needs. The fact that there are so many methods testifies to the inadequacy of all. Dr. Warbasse did not think there was any particular post-operative virtue in these bread tubes. Their chief use, he said, is simply in facilitating the application of the suture. After the suture has been applied the fate of the operation is sealed; and it is immaterial what becomes of the bread tubing.

DR. A. T. BRISTOW stated that he was entirely in accord with Dr. Warbasse about the Murphy button, save in one operation, that of gastro-enterostomy, and he doubted whether we shall ever have a better means of doing rapid and accurate work for that operation than by the use of the Murphy button. It is some two or three years now since he has made use of any artifice for the purpose of facilitating intestinal anastomosis. He had found the following method had

served him well and he does it with rapidity. He first puts in a stay suture, at the mesenteric end of the gut through-and-through sutures, then another suture at the opposite point, then he bisects each of the semicircles, so that he has intestine divided into quadrants by four set sutures. They give perfect control of the intestine, and if the surgeon holds one set of sutures himself, the assistant two others, and lifts the intestine up, the two portions of the intestines are held in apposition. He then puts in through-and-through sutures. He has never found occasion to use Lembert sutures in that case, and he never puts in a double row of Lemberts.

He does not believe it makes any difference whether the knot is inside or outside the intestine. The difficulty of the McConnell suture is to put the knot on the inside of the intestine. If we are going to have union at all, it is not by means of any plastic principles on the part of the mucosa, but because of the adhesive power of the peritoneum; and if there is adhesion in the peritoneum the knot will be covered up just as in the silk suture around the base of the appendix when a purse string is applied. Many of the expedients, which take weeks to learn to do properly, are with that object in view—to put the knot on the inside. He has very little confidence in the value of any appliance which is left long in the intestine. There he agreed with Dr. Warbasse that the office of any apparatus, except the Murphy button, is completed when the sutures are completed, and if the suture is not water-tight then, it is not likely to be water-tight afterwards.

DR. H. B. DELATOUR said that he was sorry that he must disagree with Dr. Bristow in the application of the Murphy button. If there is any place he would not use it, it is in gastro-enterostomy. The experience of a number of surgeons has been that the button tends to drop back into the stomach and usually gives trouble. He did not know how many cases Dr. Bristow had used it in and was successful in having it passed in the proper direction, but he knew that the experience of others was unfortunate. Personally, he believed that when the surgeon is in a hurry and wants to make an anastomosis as quickly as possible, the Murphy button is the best means at hand, but he preferred to make anastomosis either laterally or end to end without any mechanical appliance whatever.

He believed as Dr. Bristow has stated, it makes little difference whether the knot is on the inside or outside of the intestine. He has used external sutures almost exclusively and has never regret-



ted it. He would, however, say this in the employment of the Murphy button: it is not a simple thing to use. If care is not taken to closely approximate the peritoneal edges of the mesentery leakage at that point will occur. This is an observation that Murphy made in his original presentation of the button and is a very important one: that the peritoneum where it comes down from the sides of the intestine on the mesentery leaves a V-shaped space, which if not closed by a cross suture at that point will leave a place through which leakage will occur, and Dr. Delatour knew that it had occurred in several cases.

DR. G. WACKERHAGEN, in closing, said he believed the employment of wafer supports will help to secure a larger opening between stomach and intestine and will promote greater rapidity of operation in gastro-enterostomy.

#### ANTERIOR METATARSALGIA.

DR. C. D. NAPIER read a paper on Anterior Metatarsalgia, for which see this issue of the BROOKLYN MEDICAL JOURNAL, page 109.

#### *Discussion.*

DR. M. said he noticed this condition in 1897, when he first commenced to ride a bicycle, and at that time he attributed it to compression of the sciatic nerve, and thought, possibly, as he was very stout, that the saddle he was riding might produce some pressure on the sciatic which caused this condition. He suffered for some time and was compelled to give up the bicycle, but noticed that the pain instead of decreasing was rather increasing. It became so bad that he was obliged to wear extremely low shoes, so that he could slip them on and off readily. The condition was one of very severe cramp. The pain was intense. It would commence under the fourth toe, the toe would draw down and forcible extension with the shoe off would give relief, but if he kept the shoe on through stress of circumstances, the pain would come up the calf of the leg into the thigh and would be so severe he could not control his feelings. Oftentimes he had been awakened in the middle of the night on account of the pain.

He saw Dr. Napier in June and talked the matter over with him. Dr. Napier tried the pad and strapping, but he could not stand that, so a plaster cast of the foot was taken and a plate made which raised the anterior arch. As soon as the plate was fitted to his shoe he experienced relief, and to-day he is wearing his first pair of tight shoes he has been able to put on in three years.

DR. C. D. NAPIER, presenting the plate, said

it was Whitman's plate for anterior metatarsalgia, which supports the longitudinal arch also, as that seems to be of value even though there is no flattening of that arch. The principal point is the support of the arch under the heads of the metatarsal bones. The arch is supported where it needs it, and it does not need as much of a curve as one would ordinarily think necessary. In this case it appears to be but a slight curve. Most all shoes are made with a contrary curve in the shoe, at that point, that is, a shoe is concave on the upper surface of the sole transversely, whereas it should be convex. Shoes are made about contrary to what the feet are.

DR. R. W. WESTBROOK agreed with Dr. Napier that many of these cases are overlooked; and many which we never see the shoemakers get hold of, and they relieve a good many cases of mild degree. His own experience had been rather better with the pad and plaster around the arch grasping the metatarsal bones than with the Whitman plate. There are cases which find the wearing of a plate a considerable discomfort, and recently he had a case in which he had the plate made with the greatest care by the Whitman instrument maker, and the patient could not wear it with any degree of comfort. There was no falling of the longitudinal arch, but he thought he plate was indicated because the patient could not wear a thin soled shoe.

Dr. Westbrook then exhibited a device consisting of the longitudinal arch, but he thought the well shaped pad with a little lacing, which goes around the metatarsals and which has answered very well in this particular case, and he thought it would do well for many minor cases. The pad is well shaped and is intended for the arch of the foot, and the lacing, if well applied, grasps the metatarsal bones, so that it secures the heads of the metatarsals, and it seems to remain pretty firmly in its place.

There are other simple devices which assist him sometimes; building up the back part of the sole with a wedge-shaped piece to get support not under the joint, but back of the joint, and a little pad on the sole on the inside, is a great help. His experience with plates has been a little disappointing, and he had used Whitman's own plates made by his own instrument maker. Dr. Westbrook thought, however, where there is falling of the longitudinal as well as the transverse arch, that a plate is indicated.

DR. C. D. NAPIER, replying to Dr. Westbrook's remarks as to the making of plates and the discomfort caused by wearing them, thought that

the fault might be due to a wrongly constructed plate. He had found that the instrument maker referred to by Dr. Westbrook was no better than other instrument makers, who thought they knew it all. Every one of them has to be watched. When the surgeon orders a plate, if they do not think it is quite right, they do not hesitate to make a change. The first plate he ordered for anterior metatarsalgia he had made from his own cast by Whitman's instrument maker, as he thought he would know better than others how to do the work. The instrument maker shortened the plate and made it different in many ways from what he had indicated in the cast. The plate was uncomfortable to the patient, and she could not wear it with comfort until he had modified it. Since then there has been no discomfort whatever, and she says she does not know it is in her shoe.

Dr. Napier added that if a plate is made carefully and the instrument maker watched, the plate will be perfectly comfortable. Strapping is uncomfortable and in the way more than the plate, and it is often disagreeable to wear. The foot can not be bathed as often as the patient likes or the strapping has to be placed on every day and it is not always on just right. The pad and the lacing might be a good idea, except that as it is worn inside the stocking it might cause chaffing.

In reply to a question as to whether the wearing of the plate was permanent, and if not how long it was necessary to wear it, Dr. Napier said that the length of time it was necessary to wear the plate was indefinite. Patients wear them for some time after they are cured. He has advised patients to wear them for a year or two after they appear to be cured, and then after leaving the plate off to apply it again if there is any sign of trouble. A proper shoe worn on a straight last with plenty of width is important. The exercise treatment with development of the muscle is also important. All these cases have great weakness of the muscles of the toes, especially of the palmar flexors and the muscles under the anterior arch, and the development of these muscles is just as important in the treatment of anterior metatarsalgia as the development of muscles in the ordinary flat foot.

Dr. M.: Patient stated further in regard to the wearing of the plate, that he was able to take running exercises without the plate in his shoe interfering with him in any way. He was never able to wear the pad. It was disagreeable and stuck to the stocking, but the plate gave him absolute relief, and that within a week from the time it was first used.

## THE BROOKLYN GYNECOLOGICAL SOCIETY.

STATED MEETING, DECEMBER 2, 1904.

The President, W. J. CORCORAN, M.D., in the Chair.

Report of Case: Entire lack of adhesions after the occurrence of two pelvic abscesses and several attacks of pelvic peritonitis.

Dr. J. O. POLAK: This patient, 39 years of age, had been married fifteen years but separated from her husband. The husband was gonorrheic. She fell into Dr. Skene's hands soon after her first attack of gonorrhea, and the doctor cured her as well as we can cure that malady. She had a child just prior to coming under Dr. Skene's care. The delivery was instrumental, causing considerable laceration of the cervix. The doctor repaired the cervix and perineum and did a hemorrhoidal operation on the patient.

Within two years after that she had an acute attack of pelvic peritonitis and developed a pelvic abscess, which evacuated itself after a considerable length of time through the rectum. Her history from that time on until two years ago was comparatively clear of peritonitic involvement, when she had another attack of peritonitis. When I saw her there was a well marked abscess of the tube of the left side, a small fibroid of the anterior wall, and a perfect result from Dr. Skene's operation on the cervix and perineum with some rectal fissures.

The patient recovered from this attack of pelvic peritonitis without incision. It was advised that something be done with that tube, but she procrastinated. During the summer while she was in Arverne, she caught cold and again developed a pelvic peritonitis. This attack was of short duration. She had several attacks during the summer, necessitating perhaps four or five days in bed at a time none of them severe enough to cause any particular annoyance except digestive disturbances, some bearing-down pain and metrorrhagia. In the latter part of August she has taken with what was diagnosed as grippe, with chills, temperature and increased pulse rate. She began to complain of pelvic symptoms again, and her physician made an examination and found the following condition: He found extreme tenderness in the right inguinal region with a tumor the size of one's fist just about the pubis, and what he determined as a retroverted uterus incarcerated in the pelvis. I saw the case with him and differed a bit in the diagnosis, making

the mass he made out above the pubis to be the uterus, and what he had taken for an incarcerated uterus an exudate that had pushed the uterus outward, forward and to the right, and suggested that we make a vaginal incision and drain the case. She objected to it, and he objected to any operative interference at that time, and she went along until her temperature rose to 105 and she had several chills. They then consented to evacuation, and we removed a quart of stinking pus from the cul-de-sac.

About four days after the incision and drainage the temperature dropped almost immediately to 99.1, and remaining so, the pulse came down. She then developed a conjunctival injection with bile and a condition of vomiting and anuria. The urine showed no evidences of any disturbances in the kidney save the presence of bile pigments and bile salts and the presence of leucin. The patient in this condition, with a temperature normal, with a pulse below 60, with this injection, continuous vomiting and about as sick a looking woman from toxæmia as I have ever seen, did not respond to the usual remedies. We evacuated the bowels freely, we gave salt solution by rectum, the stomach was lavaged, but she seemed to go from bad to worse. We made a direct infusion into the cephalic vein which immediately brought the urinary secretion up. Her vomiting ceased, and in 24 hours she seemed to clear up, and continued to clear up under the action apparently of normal salt solution without any other medication. She was so impressed with the ease and the lack of subsequent pain, that she thought now while she was at it she would have something further done, and keeping her under observation for eight weeks, the discharge entirely cleared up from the abscess cavity. Under douches and tampons, etc., the exudate softened down, and eight weeks after the primary incision we did an abdominal hysterectomy.

There are two or three points I want to call attention to particularly. Here was a woman who had repeated attacks of pelvic peritonitis, two pelvic abscesses, one emptied by the rectum and the other was emptied by incision, and she had a fibroid of the anterior wall of the uterus. Outside of the adhesion of the fimbriated extremity of the left tube, which was gummed down pretty well, and the incision in the cul-de-sac, there was not an adhesion in the belly to the intestine of any sort. This shows what nature can do in the way of absorption of adhesions and how exudations can take care of themselves to a very great extent, and is another point in favor of

vaginal incision in these early pus cases as rather a preventative of adhesions and subsequent trouble than otherwise.

The patient made an uneventful recovery with one complication. About four days afterwards she developed this hepatic toxæmia. I cannot describe it as anything else, because the liver enlarged, the conjunctivæ became injected again, the pulse became very slow and she vomited bilious material. In this case we used the same method, only we raised the head of the bed as Dr. Fowler suggests and gave lavage to the stomach. Neither one of these things seemed to have any particular value. On consultation, we again infused her, and the effect was just as pleasing this time as it was before. The temperature in this case after the infusion reached to 103½ and the pulse went to 150. In her first infusion after her vaginal incision there was no effect on the temperature or pulse following the infusion. In that second infusion the pulse went to 150 and the temperature 103. She again ceased to vomit, her tongue cleared up, the urine increased and the skin lost its cadaverous appearance and injection, and in a few days convalescence was absolutely established and she made an uninterrupted convalescence.

The points in the case are simply those I have already referred to. The value of infusion frequently in these cases of persistent vomiting where they are losing quantities of fluid and actually vomiting their blood serum out, and the other point was the lack of adhesions found in this case after two experiences of pelvic abscesses.

#### *Discussion.*

Dr. R. L. DICKINSON: All of us who do much gynecology are called in consultation by the general practitioner to see very sick women with very large exudates in the pelvis that clear up in an astonishing way. It is hard to make a man understand how through a tolerance that I presume has been begotten through millions of generations of ill usage of the pelvic canal through difficult labors and millions of vaccinations with the gonococcus, the pelvic peritoneum can withstand anything and throw it off. We see occasionally cases of extensive pelvic peritonitis without definite pus formation that we think advisable to operate on, and I have seen an exudate literally as thick as my hand, so that it was suggestive of malignant disease. That disappeared entirely without treatment.

While all cases that present any well defined pus foci should be opened, it is the greatest of marvels that the peritoneum can take care of such extensive trouble as it does. I would like to ask Dr. Polak whether, in view of this very interesting case, in which the same toxæmia occurred twice, whether there is not a class of cases that have an ether idiosyncrasy, that have an ether poisoning develop in a few days after operation. I am quite sure it applied to the low hæmoglobin cases. I have in mind three or four very serious operations, large vascular fibroids in women with hæmoglobin between 30 per cent. and 40 per cent., and I have yet to see one of these women who is not in more danger from her intestinal paresis, from her intestinal toxæmia than from the operation or the shock of operation or any other cause. It is the thing I dread in laparotomies—low hæmoglobin percentages.

The last case in which Dr. Buist helped me the tumor was of a most vascular variety, ran above the navel, ran down throughout the broad ligament, and solidly filled the true pelvis, and had to be split down the middle and rolled out at the bottom. That woman had eserine immediately at the end of operation and has done very well, but we had a day of anxiety on account of the rapid inflation of the bowel.

There is a class of cases that seems to have a tendency to clogging up of the liver, and they cause a great deal of trouble. Some of these cases occur late. I remember a difficult hysterectomy that Dr. Buist took care of afterwards, that a very persistent icterus developed just after she got home three weeks after her operation. Why do some cases not with low hemoglobin percentages and not with low resistance get up liver trouble? I confess I do not know, but the subject is very interesting.

A woman now in the Brooklyn Hospital, ready to go out, with a hemoglobin count of 30 per cent., with a very large cystic tumor, a woman who on admission was in collapse, who you would say, "Shall we let her die or risk her dying on the table?" was in such a condition that we did not dare do a laparotomy under ether. She was waxy, she had no color anywhere—her lips or fingernails. Under local anesthesia the abdomen was opened, the swollen, adherent, inflamed omentum was stripped off from the tumor, the tumor was punctured and drained, and quarts of the rankest stinking pus evacuated from a suppurating, inflamed dermoid. Not having any ether poisoning that patient has not turned a hair. She was eating beefsteak on the third day and wanted

to go home on the fourth. There was no ether shock, no intestinal paresis, no absorption.

Now, I am inclined to think in view of the lamentable results in patients low from suppuration or bleeding, that wherever we can we would better avoid ether—perhaps nitrous oxide would be less troublesome, perhaps chloroform will depress less, but the intestinal paralyses are very dangerous happenings. As Dr. Polak has said, more dangerous than the operation itself.

Dr. W. MADDREN: I can add a word to what Dr. Dickinson has said in corroboration. We had a woman with very far advanced malignant disease of the cervix, her hemoglobin was 30 per cent., and first we curetted everything away under nitrous oxide. She had no trouble from it at all. We were so encouraged by her improvement that after a couple of months we did a hysterectomy, and that was done under nitrous oxide. Unfortunately we found the pelvic glands were largely involved. She is now suffering from a return of her condition to some extent, yet her blood poisoning is nothing like as bad as when we did the first operation. Under nitrous oxide these cases do very well. She had no trouble, no vomiting.

Another point. Sometimes these biliary troubles, I think, are due to calculi in the gall bladder. I do not know whether this case of Dr. Polak's had any symptoms referring to that condition, and perhaps it was purely a toxæmia, as he suggests. We had a case of that kind some two or three years ago that troubled us a good deal. Every time she got an anesthetic she had an attack of icterus and was in bad shape. At the first operation, a laparotomy done for adhesions and intestinal obstruction, we were afraid she would die from the effect of the anesthetic. She pulled out of it, and ultimately we found that her trouble was due to having five gall stones in the gall bladder. She had her attacks of icterus, it is true, but the intestinal adhesions, the result of an old operation by Dr. Skene for an ovarian cyst, had been mistaken for the gall bladder condition, and I suspected that that trouble was due to a calculus or several calculi too large to pass, producing a cholecystitis, and the trouble comes in part from that.

Dr. J. O. POLAK: I would like to answer Dr. Dickinson's question. I do not think that the toxæmia after the first operation could possibly have been due to the anesthesia. The patient took gas and chloroform in that case, and the whole anesthesia from the time that she started to the time the operation was finished was six

minutes, as it was simply an incision and drainage. The last operation was done under gas and ether, and the anesthesia was rather prolonged on account of a raw surface that it was difficult to stop oozing from.

In regard to the point Dr. Maddren has made, in this particular case there were no gall stones, as I adopted the method that I have used for a long time, suggested by Kelly, of exploring the gall bladder and the common duct when the abdomen is opened.

Dr. W. J. CORCORAN: I would like to ask the facility of doing a hysterectomy under gas. I have been afraid to use it on account of the rigidity of the abdominal muscles, which it does not overcome.

Dr. W. MADDREN: She had some rigidity, but she came through the operation safely. We did a vaginal hysterectomy; we did not open the abdomen.

Dr. J. R. TAYLOR: I dislike to introduce extraneous material, but I want to take exception to Dr. Polak's statement, that an examination of the gall bladder by Kelly's method would be conclusive proof that gall stones are not present in these cases. I do not question that they may be absent, but I do question that you may examine the gall bladder from the interior of the abdomen by Kelly's method and fail to discern large gall stones. In several cases upon which I have operated for gall bladder conditions I have failed to detect gall stones when I have had the gall bladder in my hand with the abdomen opened, and have only found them by careful exploration of the gall bladder after it was opened.

The fact that you do not feel a fairly large gall stone through the gall bladder wall is no proof it is not there, and I have in my possession at present 100 gall stones, the size of No. 8 shot, taken from a patient three years ago, and in that case they were held together as in a small net by the secretion in the gall bladder mucus and bile, and only after I had very carefully explored the gall bladder with my finger could I detect them at all, after opening the gall bladder. I think in some of these cases the gall bladder may be the source of trouble without one being able to detect the gall stones through the gall bladder wall.

Dr. J. O. POLAK: I would like to ask what was the condition of that gall bladder with the hundred stones? Were there any adhesions? Was the gall bladder wall thickened?

Dr. J. R. TAYLOR: The gall bladder had no adhesions. The gall bladder was almost infantile

in size and was exceedingly difficult to get at. I would not have had any difficulty of feeling a gall stone through the gall bladder walls.

• It has been my misfortune not to see an operation for gall stones of large size. I have met them post mortem. I have seen them in operations in the service of other men. I think the gall stones in all these cases of gall bladder disease are incidents and not factors in the disease. The gall stone is present on account of the inflammatory condition of the gall bladder.

Dr. J. O. POLAK: The doctor is perfectly right that there are a large number of gall stones that you cannot palpate by taking the gall bladder in your hand, but a gall bladder can have a lot of gall stones in it and not cause any symptoms at all. A gall bladder that has undergone inflammatory changes, with its thickened wall, with its adhesions, with its atrophy, I think can be appreciated pretty well by abdominal exploration without having to bring it up. In cases where there has been doubt I have not hesitated to make another incision and look directly at it. Another incision does not hurt a woman very much outside of the time it takes to make it, but where there is doubt it is justifiable, and certainly if there had been any inflammatory condition about this gall bladder, or if there had been any large stones or thickened walls as a result of repeated attacks of cholecystitis, it seems to me you can appreciate it pretty well when you get your fingers on it.

#### PAPER: THE CARE OF THE PARTURIENT IN EARLY PREGNANCY AND AFTER LABOR.

BY DR. R. L. DICKINSON.

##### *Discussion.*

Dr. W. B. CHASE: I have been interested in this comprehensive statement of facts relating to the puerperium. I do not think Dr. Dickinson has left out much of importance. There is doubtless a fatality which might be obviated in obstetrical cases, which are lost for the want of these ordinary examinations, which enable the accoucheur to know in advance whether his patient is in proper condition.

The question of retroversion is to my mind a most important one, and not only retroversion as relating to pregnancy, but as a factor in the production of miscarriages. I know several ladies in which the retroversion is of such a nature that it is impossible for that woman to conceive and carry a child past the second or third month. Of course, if they would consent to an operation whereby the displaced and adherent uterus could be restored to its normal position, they would

have a chance of becoming mothers of living children. In these patients, if the normal enlargement of the uterus in pregnancy is not sufficient to break these adhesions, a miscarriage is sure to follow.

Dr. J. C. MACVITT: Since listening to Dr. Dickinson's paper I remember the ground he took some years ago regarding the immediate repair of the cervix. I would like to ask the doctor if he still holds to the doctrine that he at that time proclaimed.

Regarding the tears of the perineum, leaving those involving the rectum, it was my practice when doing obstetrical work to resort to immediate repair of the perineum no matter how grave the destruction. In doing this you avoid the future necessity of operating with the attendant discomforts and expense to the patient. With the proper aseptic precautions, which are now used by all careful men, probably 95 per cent. of the immediate repair of the perineum will be successful. I do not believe that the destruction of the parts due to the violence of labor is going to so disarrange the coaptation of the tissues to such an extent as to preclude immediate repair.

That does not hold so good regarding the cervix. The enlarged cervix with its sometimes multiple tear is such that you cannot always discern the conditions present, and in doing a trachelorrhaphy immediately after labor, if you coapt the parts you are very apt to cause such close union that it is going to prevent the free discharge of the lochia.

One point that appealed to me is this, that Dr. Dickinson is particularly fortunate in being able to see his patients at so early a period as the first or second month. In my past experience it was rare a patient would consult me at so early a period. It would be about the seventh or eighth month where this precaution could not be taken.

Dr. Dickinson's statement that an examination should be made two months after delivery should hold good in every case.

Dr. J. O. POLAK: Dr. Dickinson has covered these points with his usual attention to detail, and it would be well for us all to follow the detail the doctor has suggested. There are some points in his few statements that exception might be taken to, but it is in the line I think, of the general teaching to-day, of great care during pregnancy and labor, and particularly post-partum.

In regard to his examinations at two months, there is no doubt that a large number of these cases can be managed, abortions prevented and

various conditions such as he has called attention to may be discovered.

In my experience in a number of cases of retroversion where the examination had taken place within two or three months after the missed menstrual period, the uterus has been replaced and maintained in good position by use of a pessary, and I am a great believer that a pessary, even in the early months in movable retroversions has a good field. It is gradually growing out of custom to use a pessary, but I am old-fashioned enough to find they have a good use in pregnancy as well as some post-operative conditions.

I was pleased to hear the doctor make the statement that he could not always make the diagnosis of ectopic before rupture.

Regarding ante-partum examinations there is nothing more to say. Every man should make an examination beforehand to determine position, posture, measurements and relative size of head to pelvis. If examination is made at the eighth month in a primipara, if the pelvis and child are normal, the head will be in the pelvis, and if not in the pelvis something is wrong.

In regard to examinations for lacerations after confinement, the doctor omitted to mention specifically, though he did imply, the examination of the vagina, he forgot to mention the injury we find so much of and so little said of, and that is lacerations of the anterior vaginal wall. All of us who have done gynecology and have attempted to do the secondary operations, such as are advised by Sims, Emmet, Stolz and various others for cystocele and anterior wall injuries, know how ineffective the present operations are in these conditions, and yet a casual examination with a good light will show a laceration up one or the other sulcus anteriorly, and can be united or repaired either at the time or later, and we get a vaginal wall that we cannot get by any subsequent or secondary operation. Hirst's is the nearest to it of any operations devised for repair of lacerations of the anterior vaginal wall.

In regard to the immediate repair of the cervix, that is a question that is extremely debatable. I feel where you have done a little dilatation and know you have a laceration, if the laceration is deep or causes hemorrhage, and particularly in primipara, that it is advisable to repair that laceration, and I have in a large number of cases successfully repaired the laceration at the time. It is a comparatively easy procedure, if you follow the original teachings of Dickinson, of using a couple of volsella forceps, one on each lip, and bringing the uterus well down, with the

hand pressed on the fundus, so that the cervix is outside the vulva. You can see the laceration and can suture without difficulty, and you get a good result if you do not tie your sutures too tight. The drainage is ample and a little ergot will secure good retraction of the uterus and it helps materially.

The doctor made a point that is a good one. The more extensive the laceration, the later the date of operation, and that is a point that really needs to be impressed. Take sphincter tears where you have done a difficult operation, either instrumental or extraction, and you have traumatized tissues. You can suture that up immediately, but you will not really get the result you will if you waited for two or three days, because the traumatized tissues do not unite with the ease that they do after they have regained their tone, and the anatomical reconstruction is not as perfect as with assistants, anesthesia, good light and sterile surroundings, and you know how tired one is after a difficult operative case.

I agree with the doctor that it is a good plan to postpone these operations in hospital practice. We have not educated the public to permit us to leave these tears for two or three days, and then bring in assistants and charge them a few more dollars. They do not appreciate it.

After operations I cannot say too much in endorsement of what he said. A case occurred in my experience post partum very similar to what the doctor has cited ante partum. A woman was confined of a child with a comparatively easy delivery by a midwife. The woman went along for fourteen days, and she ran a little temperature during the last four of the fourteen days, and had some pain in her abdomen, and the abdomen began to swell. She had some lochia, not excessive, and she passed urine every hour or two. The nurse and the doctor in attendance assured me that there was no question about her passing urine. The doctor had invited me to see her because of an ovarian cyst he had discovered complicating the post partum period. We examined that patient and found a retroverted uterus, the fundus incarcerated, the cervix carried up almost as the doctor described to a globular tumor extending between the umbilicus and ensiform. The case was catheterized on general principles and nine pints of urine came away. That woman did not do as the doctor's case did, but the entire mucous membrane of the bladder sloughed away; that is, she passed enough pieces of mucous membrane in the subsequent several weeks to possibly account for the entire mucous membrane of the

bladder. Had that case been examined two weeks after labor and account taken of the bladder at each visit, the binder untied to see where the fundus was, and the condition of the bladder observed, that result would have been obviated.

The last point the doctor made, and an extremely good one, is that subsequent examination should be made two weeks and two months after confinement. He puts his last examination a little later than has been my custom. I examine them two and six weeks afterwards, and there is usually some endocervicitis and a little displacement. A few treatments at that time will give that woman unquestionable relief and will prevent a great deal of subsequent misery.

Dr. WM. MADDREN: I appreciate that the doctor's points are very good. They appeal to me very strongly. I think that at two months regular patients are pretty sure to consult their family physician, or the patient has missed perhaps her second menstruation and she is anxious to know just what the trouble is. I find no difficulty in examining patients at that time, and I think a great deal can be learned. I agree with the doctor that tubal pregnancy may be overlooked. You do find conditions that make you suspicious of it, but to make a positive diagnosis I think is exceptional rather than the rule.

In regard to retroversions or retroflexions, I think the second month is an excellent time to ascertain it, and if you do ascertain it the first time under these conditions, I believe in using a pessary, and have used it quite frequently with satisfactory results.

I know from repeated observation that a pregnant uterus will become retroverted when there has been no retroversion antecedent to the pregnancy. I think that that quite frequently occurs and is the occasion of some distress under some circumstances. Of course, it can be easily righted and kept in place until the uterus can keep itself up.

The other examinations at the other periods that the doctor has spoken of I believe in. I believe also that the doctor is right in regard to the repair of this class of cases that he speaks of. There are a number of points in favor of postponing severe cases, and if there are bad lacerations through the sphincter, if you repair them at that time you do not get a good repair, and occasionally you do not get any repair at all, and I have actually seen the tissue that was involved in the ligatures slough away, not from being tied too tight apparently, but from the condition of the tissue. You there get a slough and a loss of



tissue, or you get a failure to unite because of the oedematous condition of the tissues, and in these cases of extreme toxæmia I think it is very bad practice to attempt to repair these cases, considering the condition of the patient and the condition of the doctor, and the likelihood that you will not get good union, or you may not get union at all, or you may get this sloughing.

In regard to the minor repairs they can be done as usual, but I think we sew up immediately too many cases.

Dr. O. A. GORDON: This subject of placing sutures reminds me that a few years ago some one was advocating incision at the time they put these sutures in.

There can be no doubt that where you have a patient that is willing to wait for the subsequent repair of the perineum that you will get perhaps a better result, but I must agree with Dr. MacEvitt. It seems he is the only one who has taken the side of immediate repair. It seems to me that you will get better results than the gentlemen suppose by immediate repair. In the large majority of cases where we repair the perineum immediately we get very good results, especially if you put the patient in a good position, have a good light and a good nurse, and with antiseptic precautions you can bring those parts together, and in a very large percentage of cases get good results. If you tell a great many people that they have got to have a second operation in a few days, with anesthetic and assistants, they will not like it; it will be unsatisfactory. Where you can make the repairs immediately, it seems to me it is preferable to do so, even though the tear extends into the sphincter.

Dr. WM. MADDREN: The other gentlemen did not advocate the postponing of the repair except where the laceration is very extensive or the condition of the patient contraindicates it. I think the majority of us make repair immediately, but Dr. Dickinson referred only to extreme cases.

I think lacerations of the anterior vaginal wall are often overlooked. It is surprising if they are sewed up how quickly they repair.

Dr. W. B. CHASE: There is one point not alluded to to-night which some years ago was given emphasis. It was said the necessity for immediate repair of laceration was based on the fact that unless these raw surfaces were immediately closed in the liability to sepsis was increased. I do not see much attention is now paid to that fact, but I do believe if the tissues are not too much torn and injured, that there is an advantage in immediate repair of the laceration. You lessen the area of raw surface and cover in surfaces

which are very likely to take up poisonous material.

Dr. R. L. DICKINSON: I would like to say in answer to the question of Dr. MacEvitt that while I did a good many years ago advocate the general repair of cervix lacerations immediately at the close of labor, and that it was my practice for a considerable time, I found that in a large number of cases it was impossible on that frayed and crushed and swollen and ecchymotic surface to determine just what was torn structure and what was simply abraded surface, so I abandoned that general practice. Where an extensive injury happens and there is no reason for immediate repair, it is my present practice to delay repair until partial involution of the cervix has occurred. I know of no tissue in the human body that suffers such severe injury and recovers so safely and completely as that cervix stretched from a diameter that will admit one finger to a diameter of four inches during labor in the course of a few hours and then jumping back in three or four days to a shapely cylinder.

The coaptation is as easy as Dr. Polak pictures it at the end of labor, but the recognition of exact anatomical adjustment is impossible at that time. Our results are good, but they are better later.

The cases in which the cervix is to be repaired at the fifth day after labor are very few indeed. The cases in which the cervix is to be repaired at the close of labor are all those in which there is much hemorrhage—these have to be sutured at once. The cervix is sutured at once when the perineum has to be restored at once, so that we only have a small class of cervixes repaired on the fifth day with intact perineum. The extensive cervix injuries with extensive perineal injury would best be restored later.

In answer to Dr. Corcoran's question, in repairing thirty cases of complete tears into the rectum, the repairs were done by choice within the first four or five days after the oedema had subsided and before granulation has covered and obscured the angles and the anatomy. You want to be able to recognize your structures. The tears are jagged. After the oedema has subsided is the best time and before granulation has occurred. After the first week you have to, with a sharp curette, scrape off the granulations and reconstruct the tear.

The number of cervix tears to be repaired on the fifth day are very few. The number of tears of the perineum to be repaired on the second, third or fourth day are more numerous, and should include all the severe injuries that will allow you to put them off to that period.

# Brooklyn Medical Journal.

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BROOKLYN-NEW YORK, MARCH, 1905.

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## PREPARING FOR GREATER NEW YORK'S FUTURE WATER SUPPLY

Important steps have been taken during the past month toward a solution of the problems met in the endeavors to secure an adequate water supply for our city of the future.

The Mayor directed the attention of all citizens to the hearing in the legislature of his bill for authorizing the appointment of a city Commission of Water Supply, with power modeled somewhat after that of the Rapid Transit Commission, which made the subway a possibility.

The Governor, on the other hand, proposed a State Commission of Water Supply to regulate the needs of all the large centres of population in the State. The late executive of the State has expressed opposition to both of these measures, stating his belief that the city's charter already endows it, with larger powers for the obtaining of a proper supply than it has yet profited by, and which powers he considers ample.

On the whole the omens are favorable for a practical advance over present conditions.

One commission, however, is enough; and whichever commission is legalized will have enough to do to look after the enormous and increasing needs of Greater New York. There is no reason to suppose that a commission of high-minded and capable men may not be secured to serve in either capacity. No need, however, exists for a commission whose object is to direct the distribution of the waters of the State so that each centre of population gets its just quota.

There is plenty of water. A capable commission will secure it for Greater New York without encroaching on the right of others.

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## THE LOCAL BOARD SYSTEM OF STATE HOSPITAL MANAGERS RESTORED.

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The Governor has reversed the policy of his predecessor in restoring the local board system. Local boards of managers of the State Hospitals to serve with somewhat curtailed powers as compared with the old boards will be reappointed. The distinction of this difference lies in the fact that the State Commission of Lunacy will still retain absolute power over the expenditures of all the hospitals, as to supplies, building and equipment; and the boards which are reappointed will have to submit their recommendations to the State Commission for approval, revision or rejection.

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## NEW BUILDING FOR THE MANHATTAN EYE, EAR AND THROAT HOSPITAL.

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The new hospital building of this institution will be on East Sixty-fourth Street, and will cost about six hundred thousand dollars. The old building is not antiquated by any means, but its site at Forty-first Street and Park Avenue has become so valuable that a structure of the most modern design can be erected largely from the proceeds of its sale.

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## NEEDS OF THE BROOKLYN EYE AND EAR HOSPITAL.

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The widening of Livingston Street having been definitely decided upon, the rebuilding of an edifice to house one of the oldest and most useful of Brooklyn's public institutions will soon become a necessity.

The Brooklyn Eye and Ear Hospital has for years suffered for lack of room. The opportunity now seems at hand for the erection of a building of modern hospital construction. By virtue of its long years of usefulness and its greater needs for its future it should lack nothing, of all that has proven useful, of up-to-date housing and equipment.

## MEDICAL NEWS.

EDITED BY CLARENCE REGINALD HYDE, M.D.

*It is earnestly hoped that all members of the profession possessing news concerning themselves or their friends, which would interest others, will communicate the same to the News Editor before the 9th of each month. Items for this department should be sent promptly to Clarence Reginald Hyde, M.D., 126 Joralemon Street.*

Dr. William Browning read a paper on Spinal Hemorrhage at a meeting of the Medical Society of the County of New York, Feb. 27, 1905.

Dr. James P. Warbasse announces the following change of office hours: Two to four, afternoons of Monday, Wednesday and Friday.

Dr. Kingman, of 78 Putnam Avenue, announces that he has limited his practice to Diseases of the Nerves and Brain.

At the recent meeting of the New York State Medical Society, papers were read by Dr. H. A. Fairbairn, on "The Non-Sequitur in Medicine," and Dr. George R. Fowler, on "Some Observations on the Technique of Perineal Prostatectomy."

Dr. Charles L. Fincke has been appointed Assistant Visiting Physician to the Brooklyn Hospital.

Dr. Lucy Hall Brown, formerly of this Borough, is at present settled in Los Angeles, California.

Dr. Louis Lanehart, of Hempstead, with Mrs. Lanehart, will travel abroad this summer.

Dr. Ernest Palmer, of 155 Clinton Street, makes use of this column to emphasize the fact that he is not ill as has been commonly reported. Nor has he given up his practice with the intention of recovering his health by a European trip. He asks that all reports of this nature be denied, inasmuch as he was never in better health, and is at present engaged in the practice of medicine as formerly. The JOURNAL takes pleasure in denying all such annoying reports, and congratulates the Doctor on his continued good health.

Dr. and Mrs. Frank Baldwin, of 69 Willoughby Avenue, are at present on a trip in California, where they expect to remain six weeks.

Dr. Walter J. Corcoran, of Clinton Street, has been very ill at his home with endocarditis. Shortly before being taken ill the Doctor fell and sustained a Pott's fracture. His many friends will be pleased to know that he is convalescing rapidly.

Dr. Albert M. Judd, of 188 Sixth Avenue, while alighting from a trolley car, slipped and received a painful fracture of the head of the right radius. At present he is enjoying all the comforts of a plaster splint.

Dr. George F. Little, of 469 Clinton Avenue, has been appointed visiting Pediatricist to the Kings County Hospital.

Dr. E. H. Bartley has prepared a tabulated statement of the chief serum reactions produced by the injection of various substances into animals, in a one-page quarto leaflet.

Dr. William J. Cruikshank, of 102 Fort Greene Place, in a very felicitous introduction, welcomed Dr. Joseph L. Mayer, Assistant Professor of Chemistry in the Brooklyn College of Pharmacy, to the Young Men's League of St. Peter's Church, on February 13th. Dr. Mayer's topic for the evening's lecture was "The Chemistry of Ventilation."

The annual dinner of the Long Island Medical Society was held at the University Club, February 7th. Dr. William A. Tomes, President of the Society, acted as toastmaster. Thirty-five members were present.

The Brooklyn Samaritan Hospital has been incorporated under the laws of the State. It began work as a dispensary, four years ago, on Fifteenth Street, near Fourth Avenue. Among the names of its incorporators we note the following physicians: Drs. A. F. Erdmann, L. T. Jackman, A. H. Longstreet, E. W. Skelton.

The following evening the alumni of the Brooklyn Hospital dined at the Clarendon, and on February 11th, the ex-Internes of the Long Island College Hospital held their annual dinner at the Clarendon.

A. Victor Barnes and Harriet Barnes Newberry, of Brooklyn, and children of the late General Alfred C. Barnes, have made a gift of \$1,500 to the Brooklyn Hospital in memory of their father, the late Gen. Alfred C. Barnes. It will be added to the permanent endowment fund.

The New York Sun expresses regret that New York City is not the medical centre of the United States, and says that this city in spite of its vast preponderance in population and its financial standing as the first city of the Western Hemisphere, it is outstripped by two or three cities of smaller size, because they, through their State or municipal governments, or by the aid of wealthy philanthropists, give largely to the support of medical schools and hospitals.

A dinner of the staff of the Brooklyn Eye and Ear Hospital was held on February 16, 1905.

Nearly the entire staff and several members of the Board of Trustees were present.

Dr. and Mrs. Wm. Clarence Fiske, of Richmond Hill, will be the guests of President Roosevelt on the inaugural and reviewing stands, and at lunch at the White House, March 4th.

Dr. Thomas L. Fogarty, of 230 Union Street, has been appointed Assistant Sanitary Superintendent for the Borough of Brooklyn. He is 38 years of age, a graduate of the Long Island Medical College, and for the last ten years has been connected with the Department of Health in various positions.

Health Commissioner Darlington says he is looking for an honest man to fill the place of Inspector of Supplies in the Health Department. At present there is no such position, but the Doctor thinks one should be created, and should pay a salary of \$2,400; also be exempt from civil service.

Brooklyn at last has a new and modern morgue with all the facilities which science can supply. The new building is 40x50, and cost \$26,000. A notable improvement is a change in the method of refrigeration by which bodies can be kept in a much more presentable condition. The old morgue will be used as a chapel and waiting room. Patrick McGuire, the veteran keeper of the morgue for the past thirty-three years, will continue in charge.

Dr. H. W. Wiley, chief of the Bureau of Chemistry of the Department of Agriculture, has made this official statement:

"The statement that I have denied the report of a previous interview to the effect that 85 per cent. of the whiskey sold over the bar in the United States was a compounded, blended or adulterated article, is a mistake. I have never made such denial, although I have been solicited to do so on more than one occasion. I never had an interview with the delegation representing the Wholesale Liquor Dealers' Association, as reported. No such delegation has called on me, and I never made the statements attributed to me to any person. In order that my own view may not be misunderstood, I desire to repeat it: I believe that at least 85 per cent., if not more, of the whiskey sold over the bar in the United States is not straight whiskey. It is a compound made of neutral spirit, or alcohol, artificially colored, often flavored with artificial essences and sometimes mixed with more or less straight whiskey to give flavor. When sold as straight whiskey it is an imitated or adulterated article."

The February Grand Jury has scathingly ar-

raigned the conditions that exist in the Board of Health building at 38 Clinton Street. Part of the presentment is as follows:

"The building is very old, and was apparently unfit for residential purposes when it was rented to the city some time prior to 1898. It is without a cellar; the courtyard is depressed below the level of the sidewalk, and in times of rain or thaw water flows from the yard under the floor of the building, making it damp and unhealthful. One of the rooms on the first or ground floor is used as a vaccination room. From the walls of this room the plastering bulges from the laths, so that the slightest pressure causes it to fall, and the laths to show; the flooring is old, and not very clean; the ancient paper hangs from the walls in strips, and altogether it seems an excellent place to harbor disease germs until such time as they may find lodgment in the arm of some one being vaccinated, or until carried away to some other part of the city in the clothing of some visitor.

"One toilet room on this floor has not been painted in years, and the only ventilation is through a window into the furnace room, and through the doorway into the house. The rooms on the next floor are not in quite as bad condition as those on the first floor, but the walls are badly stained by leaks from the roof and are very unsightly.

"We find in addition that in this building is a vault where are kept the records, running back for many years, of the births, marriages and deaths that have occurred in this county. The vault is damp, and the books mouldy, and the destruction of many of these records from this cause seems probable. Moreover, the vault does not seem fireproof."

Isaac Guggenheimer has given to the Sydenham Hospital, in East 116th Street, \$1,000 as a New Year's gift, and has also agreed to give monthly an amount equal to such sums as the directors succeed in raising through donations and voluntary contributions up to and including \$10,000 a year. Mr. Guggenheimer has become deeply interested in the hospital and its charitable work.

At the home of Dr. Florence G. Emerson, 632 Bedford Avenue, a reception was given to Dr. Thomas Darlington, head of the Health Department of New York City, so that he might have an opportunity of meeting the women physicians of the Borough of Brooklyn.

Preliminary examinations for appointment of Assistant Surgeons in the Army will be held on

May 1st and August 1st, 1905, at points to be hereafter designated. Permission to appear for examination can be obtained upon application to the Surgeon General, U. S. Army, Washington, D. C., from whom full information concerning the examination can be procured. The essential requirements to securing an invitation are that the applicant shall be a citizen of the United States, shall be between twenty-two and thirty years of age, a graduate of a medical school legally authorized to confer the degree of doctor of medicine, shall be of good moral character and habits, and shall have had at least one year's hospital training or its equivalent in practice. The examinations will be held concurrently throughout the country at points where boards can be convened. Due consideration will be given to the localities from which applications are received, in order to lessen the traveling expenses of applicants as much as possible. In order to perfect all necessary arrangements for the examinations of May 1st, applications must be complete and in possession of the Surgeon General on or before April 1st, and for the examination of August 1st, on or before July 1st. Early attention is therefore enjoined upon all intending applicants. There are at present twenty vacancies in the Medical Corps of the Army.

## CORRESPONDENCE.

*Editor Brooklyn Medical Journal:*

DEAR SIR—At a regular meeting of the Brooklyn Society for Neurology, held on January 26th, 1905, at 1313 Bedford Avenue, the following resolutions were unanimously adopted, and are hereby presented to your notice:

"Whereas, the period during which the State of New York has the privilege of extending its lease of the Long Island State Hospital at Flatbush will expire September 30, 1905, and

"Whereas, the interests of the insane and of their friends in the Borough of Brooklyn demand that a State Hospital be maintained within the Borough of Brooklyn on account of the following considerations:

"No. 1. Immediate relief and hospital care for cases of acute insanity, especially the feeble and violent cases, without the necessity of a journey of fifty miles.

"No. 2. Inability of relatives of many poor patients to visit their friends, when such a visit

consumes most of one day and a considerable sum of money from their small earnings.

"No. 3. The interests of the Medical Profession in having a well equipped and permanent State Hospital for the Insane within easy access of members of the profession in the Borough of Brooklyn for the purpose of study.

"Therefore, be it Resolved, 1. That the Brooklyn Society for Neurology be placed on record as requesting the proper State and city authorities to co-operate in accomplishing a permanent cession of this property to the State, and, 2. That this Society heartily indorses the present management of the Long Island State Hospital at Flatbush as being in every way satisfactory to the Medical Profession in this Borough, and further

"Be it Resolved, that copies of these resolutions be sent to the Governor, the members of the Sinking Fund Commission of Greater New York, to the State Commission in Lunacy, and to the press."

FREDERIC C. EASTMAN,

*Secretary.*

## BOOK REVIEWS.

THE NEUROLOGICAL PRACTICE OF MEDICINE: A CURSORY COURSE OF SELECTED LECTURES IN NEUROLOGY, NEURIATRY, PSYCHOLOGY AND PSYCHIATRY; APPLICABLE TO GENERAL AND SPECIAL PRACTICE. By Charles H. Hughes, M.D. St. Louis, Hughes & Co. iv, 417 pp., 12 pl. 8vo. Price: Cloth, \$3.00.

Despite anything that may be said in semi-criticism, the teaching in this book is more uniformly excellent than in most treatises. "They [these lectures] make no pretense to completeness. Their aim is clearer elucidation of already traveled roads in practical neurology." And the Editor speaks of it as "this hastily-prepared volume." All of which may further serve to disarm the steely point of any scarifier.

The illustrations are largely seniles, and weak from much reproduction. Faulty old charts of the brain-sinuses are again trotted out. Addisonian is spelled with one d (p. 8). And there is no index.

But it is a certain something in the author's style that catches the mental eye. Neuriatry, neuriator, neurility, and best of all "to neuriate"—to paraphrase Josh Billings, "Who wouldn't be a neurolog, so full of fun, so free and easy." "Everything should make way for advancing psychiatry and its designating terms"—which reminds one of the German version, "Deutschland, Deutschland ueber alles"! A moderate illustration of this Missouri missionary in the wilds of medicine is on p. 87: "There are things beneath the over-arching dome of man's brain, down among the neurones of the cortex, basal ganglia, motor and sensory tracts, as difficult to see by common sight, as some distant planets and stars of lesser magnitude are to discern by other than expert astronomical vision."

We suggest to all with the spare cash to invest in this good volume. They will learn a deal of neurology—as well as some other things—and gain a delightful insight into Hughesian literature.

W. B.

THE PRINCIPLES AND PRACTICE OF GYNECOLOGY.. For Students and Practitioners. By E. C. Dudley, A.M., M.D. *Fourth Edition, Revised.* Phil. and N. Y., Lea Bros. & Co., 1904. Col. front., 771 pp., 3 pl., 15 col. pl. 8vo. Price: Cloth, \$5.00.

In dividing this book into its separate chapters, the author has not followed the usual course, but has grouped the subjects treated in their combined form; thus all inflammatory conditions met in gynecological work are classed under Inflammations. Tumors are in another chapter, Traumatism, and Displacements each in another. The relative significance of the disease is thus constantly before the student. Recent advances in gynecological technics and treatment are included in this revised edition. So that it is thoroughly up-to-date, especially in bladder work. There are few borrowed illustrations, for which, those issuing the book should be thankful. Major operations are well illustrated step by step. The author has given us an idea how to substitute inexpensive articles of our armamentarium for expensive ones. This is especially useful should an operator be compelled to work under disadvantageous conditions and not able to obtain supplies of the conventional hospital pattern or standard design. Dudley's operation for antiflexion is well illustrated and explained. Emphasis being laid on the fact that it should be elected only in selected cases. It offers the best results of any operation yet devised.

The author follows out most of Emmet's ideas in plastic surgery, than which there are none better, despite the advance modern gynecology has made in later years. It is a pleasure to note that such a worthy pupil of a master teacher should dedicate his work to his teacher.

CLARENCE R. HYDE.

AMERICAN ILLUSTRATED MEDICAL DICTIONARY. By W. A. Newman Dorland, A.M., M.D. *Third Edition, Revised and Enlarged.* Phil., N. Y. & Lond., W. B. Saunders & Co., 1903. 798 pp., 24 pl. 8vo. Price: Flexible leather, \$4.50; with thumb index, \$5.00.

In reviewing the second edition of this dictionary two years ago, we stated that we could not commend too highly this excellent dictionary. In fact we have recommended it again and again as the medical dictionary *par excellence* for every day use by the average practitioner. The definitions are clear and concise and the inclusion of many useful plates and tables adds greatly to the value of the volume. Although it contains nearly 800 pages, the book is not bulky, and the use of a flexible leather binding and thin, yet entirely opaque paper, makes a most pleasing volume to handle.

These factors, combined with the low price at which the book is sold, we believe, have contributed much toward the well-deserved success it has attained.

In this third edition careful revision has been made and, what is most important in a medical dictionary, it has been brought thoroughly up to date. Again we take pleasure in stating that in our opinion Dorland's Dictionary has no superior in presenting so clearly and accurately so much valuable matter in so compact a form.

A. T. H.

RONTGEN RAY DIAGNOSIS AND THERAPY. By Carl Beck, M.D., Professor of Surgery in the New York Post Graduate Medical School and Hospital, Visiting Surgeon to St. Mark's Hospital and the German Poliklinik. With 322 illustrations in the text. New York and London, D. Appleton & Company, 1904.

The scholarly attainments of this distinguished author and his recognized accomplishments in the field of X-ray diagnosis and therapy make this work well worth perusal.

The preliminary chapters give a clear and concise description of the necessary apparatus and the general technique. Here the author has made two important

contributions—the *osteoscope*, in which the skeleton of the upper extremity is used to estimate the general appearance of the light, and thereby save the operator's hands; and a movable diaphragm to concentrate the rays. The utility and simplicity of this device must appeal to every operator, while its cheap price puts it within the reach of every physician.

The succeeding 239 pages are devoted to a discussion of the use of the X-ray in examining various regions in the body. Here many valuable suggestions are gleaned, and the liberal use of X-ray pictures of the separate parts elucidate the text and add completeness and authority.

The remainder of the book is devoted to a discussion of X-ray therapy. Here the author has analyzed with judicial care the therapeutic value of the ray in various pathological conditions. Its indications and limitations are freely discussed. Citations of cases which have come under the author's care make this part of the work particularly complete, because of his evident desire to arrive at a fair estimate of this novel and often over-rated therapeutic agent.

Of the many works on the Rontgen Rays this is the best we have yet had the pleasure of reviewing, and we congratulate the author upon his success in making this important contribution to X-ray literature.

WILLIAM FRANCIS CAMPBELL.

AMERICAN POCKET MEDICAL DICTIONARY. Edited by W. A. Newman Dorland, A.M., M.D. *Fourth Edition, Revised and Enlarged.* Phil., N. Y. & Lond., W. B. Saunders & Co., 1903. 566 pp. 16mo. Price: Flexible leather, \$1.00; with thumb index, \$1.25.

An abridgement of the larger "American Illustrated Medical Dictionary" by the same author. It fills admirably the purpose for which it is intended, i.e., a clear, concise, compact *pocket* dictionary. The fact that it has run through four large editions in as many years is perhaps the best criterion of its worth.

A. T. H.

A THESAURUS OF MEDICAL WORDS AND PHRASES. By Wilfred M. Barton, M.D. and Walter A. Wells, M.D. Phil., N. Y. & Lond., W. B. Saunders & Co, 1903. 534 pp. 12mo. Price: Flexible Leather, \$2.50; with thumb index, \$3.00.

To the worker in the field of general literature Roget's "Thesaurus" for many years has been an almost invaluable adjunct. In the careful selection of words to express precisely the shade of meaning intended by the writer and in choosing synonyms to avoid unpleasant repetition of the same word, a thesaurus can render signal service even to one whose vocabulary is unusually rich and extensive.

The volume before us is the only medical thesaurus ever published. It reverses the process of the ordinary medical dictionary; instead of supplying the meaning of given words, when the meaning or idea is in one's mind it endeavors to supply the fitting word, term or phrase to express that idea. This thesaurus is intended to assist those who have to write or to speak in giving proper expression to their own thoughts and in order to enhance the practical application of the book cross references from one caption to another have been introduced and terms have been inserted under more than one caption where the nature of the term permitted. In the matter of synonyms of technical words the authors have performed for medical literature a service never before attempted. Writers and speakers who desire to avoid unpleasant repetition of words will find this feature of the book of great value.

The book before us ought to meet with an instant and wide sale. If it were only used more generally by our medical writers we believe that medical writings could be more truthfully called medical "literature."

A. T. H.

# BROOKLYN MEDICAL JOURNAL

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## ORIGINAL ARTICLES.

### HIGH RECTAL CANCER.\*

BY CHAS. JEWETT, M.D.

The surgical diseases of the rectum must frequently be reckoned with by the gynecologist. Questions both of diagnosis and treatment in pelvic surgery are often concerned with them. In women by necessity they fall within the scope of gynecologic work. The special purpose of this paper is to report a case of resection of the bowel for cancer situated at the junction of the sigmoid and the rectum.

Not far from one in twelve of all cases of carcinoma are growths of some part of the intestinal tract. The statistics of Heimann<sup>4</sup> represent 20,054 cases of carcinoma collected from the records of the Prussian hospitals. Of this number, some part of the bowel was involved in 1,706, or 8.5%. Of the latter, 1,686 were growths of the large intestine, more than 97% of intestinal carcinomata. As observed by Brill, Heimann's are doubtless the most reliable figures bearing upon the relative frequency of malignant disease in different portions of the intestine.

The combined statistics of Heimann, Maydl, Nothnagel, Müller, Lubarsch, Leichtenstern, and Bryant comprise 3,563 cases of carcinoma of the general intestinal tract. Of these, 3,474, or 97.5%, were located in the large bowel.

Out of 1,391 cases of intestinal carcinoma collected by A. O. J. Kelly,<sup>5</sup> 988, or about 72%, were growths of the rectum. Leichtenstern, quoted by Brill, in 178 cases of intestinal cancer collected from the records of the Vienna General Hospital, found 143 of the rectum, or about 80%.

Sarcoma, on the other hand, is very seldom observed in the rectum. Jopson and White found in the literature but 22 cases of sarcoma of any part of the large intestine.

The most frequent situations of intestinal carcinoma correspond with those of fecal accumulation. Mechanical irritation is apparently a factor in the etiology. The commonest seat of rectal

carcinoma is the lower four inches of the bowel.

The growth is of the cylindric cell variety, and is very rarely multiple. Rectal cancer begins insidiously and it grows rapidly, especially when it attacks the upper part of the rectum. It tends to encircle the bowel, yet the ringlike formation is rarely complete. Obstruction may develop abruptly from invagination.

Early ulceration is the rule. Extension often occurs to adjacent structures and metastasis may take place to the liver and other organs. Usually the lymph glands are soon involved. First invaded are those behind the rectum, and later those along the iliac vessels. The inguinal glands are implicated only when the disease is near the anus.

According to Allingham, the average duration of rectal carcinoma from the time it is first observed is two years. Yet how long it may have existed, unobserved in a given case it is clearly impossible to know. Mathews says that patients may live four to six years after development of cancer in the rectum.

Diagnostic details I need not enter into at length. Malignant disease of the lower portion of the rectum should not escape early detection. The principal evidences of high rectal cancer are pain, hemorrhage, partial obstruction and palpable tumor. Pain may be intense or for a long time almost wholly absent. Hemorrhage is seldom profuse. Persistent discharge of bloody mucus is very significant. Tenesmus and difficult defecation are common. Occasionally the disease may progress with almost no symptoms till obstruction develops. Generally the relation of the tumor to the rectum may be made out in women by the usual method of bimanual pelvic examination. Fragments of the growth may sometimes be recovered from the stools for microscopic diagnosis. A tumor of the upper rectum which on ocular inspection through the rectoscope is found to be ulcerating, or which bleeds on touch, is almost surely malignant. Chronic diarrhoea in patients past middle life calls for a rectal examination. Benign adenoma, stricture of non-malignant origin, villous growths and polypi in general must be excluded.

\* Read before the Brooklyn Gynecological Society, Feb. 3, 1905.



Important in deciding the question of operability are the mobility of the tumor, as indicating comparative freedom of surrounding structures from invasion, and absence of metastatic deposits in the liver and other remote organs. Much involvement of lymph glands, while it does not preclude resection, clouds the prognosis. The same may be said of beginning extension to the uterus or bladder.

The immediate mortality of radical operations of all kinds is estimated by Jacobson and Steward at from 15 to 20%. Vogel's modification of Krönlein's table, which appears in the latest edition of Mathews, shows 20% of deaths from operation in 1,508 cases. Schneider<sup>9</sup>, in 31 bone resections, reports an immediate death rate of 23%. Yet Kraske<sup>8</sup> reduced his operative mortality from 40% in the first 10, to 9.8% in 51 cases. Resection by the vaginal route, which was introduced by Campenon<sup>3</sup> and Rehn<sup>8</sup>, appears to promise well for immediate results. Murphy<sup>7</sup> publishes 5 successive vaginal resections with no operative deaths. Two of these were for non-malignant structure. Bristow<sup>2</sup> has reported a successful resection by the vaginal route.

The ultimate results differ little from those of radical operations for cancer in other pelvic organs.

Of the cases referred to by Schneider<sup>9</sup>, 45% of those who survived operation died within one year, 58% within two years. McCosh mentions 375 operations with 10% of non-recurrence after four years. Kelsey reports 6 permanent cures in 100 cases that survived operation. There was no recurrence after ten years. That life is prolonged by successful resections cannot be questioned.

Colostomy is often justified as a palliative measure but it adds little to the length of life. Schneider's figures already referred to show that the average duration of life after colostomy in 32 cases was 8 months. Mikulicz's average is 21 months. It is estimated that colostomy has an immediate death rate of 5% to 10%, but this is largely due to the gravity of the condition in which the operation is performed. Colostomy as a preliminary to resection, while it offers certain advantages, is not advisable except on special indications.

Four cases of carcinoma of the upper portion of the rectum have fallen under my care in the last two years. In one patient excision of the gut was practiced by the abdomen. The suture line was enveloped in gauze which was carried

down into the vagina. This woman died on the third day after operation, of sepsis with little rise of temperature.

In a second case the abdomen was opened, but owing to the extent of the growth no further procedure was deemed advisable. In another, part of the rectum and of the descending colon was found involved and colostomy was performed to forestall complete obstruction. This patient died within six months from continued progress of the growth. The fourth case came under my care in December last by the courtesy of Dr. D. E. Callaghan, owing to a tumor in the retrouterine cul-de-sac about the size of a mandarin orange. The subject of the growth was a married woman, about 46 years of age, and never pregnant. One cousin had died of mammary carcinoma. With this exception there was no family history of malignant disease.

The patient had previously been well. Her present illness she dates from April last, when she was abruptly seized with colicky abdominal pains. Similar attacks occurred subsequently at intervals of two weeks to two months, becoming gradually more severe. The paroxysms of pain were attended with nausea and sometimes with persistent vomiting. Defecation was difficult and mucus with, occasionally, bright blood, was passed in the stools. Pain was felt also in the sacral region. Various cathartics were freely used. Enemas returned as fast as injected. A fairly marked anemia had been observed for six weeks. The temperature was normal and the pulse 80. Hemoglobin, 70%.

Pelvic examination revealed a tumor behind the uterus which sprang apparently from the rectum and was fairly movable. A Kelly proctoscope was stopped just above the level of the lower peritoneal fold and the rectal mucosa at this point was sensitive and bled slightly on touch with a gauze sponge. The growth was clearly malignant. Resection was performed in December last by the vaginal route, following substantially the technic of Murphy.

With the patient in Edebohl's position the cul-de-sac was opened by posterior vaginal section, permitting the exploration of the growth and the surrounding structures. A small quantity of cloudy serum escaped from the cul-de-sac. An unusually narrow vagina made the work difficult and further exploration was carried out through a short median abdominal incision. The tumor involved the upper part of the rectum and the lower portion of the sigmoid, reaching the level of the first sacral vertebra. No other

nodules in the gut and no enlarged glands could be detected. A light gauze pack kept the intestines out of the lesser pelvis. The field was exposed by the aid of anterior, posterior and lateral vaginal retractors. The posterior vaginal wall was incised through its entire extent in the median line. The vaginal wall was separated from the rectum on each side. The lower part of the rectum was laid open by a longitudinal incision through its anterior wall, including the sphincter. The gut was amputated one and one-half inch below the growth, the proximal segment packed with gauze and closed with forceps. The proximal end of the bowel was freed from its posterior and lateral attachments nearly to the sacral promontory. This was effected partly by blunt dissection, partly with scissors, dividing the mesentery far enough back to avoid cutting the superior hemorrhoidal vessels. Hemorrhage was controlled by hemostats and by ligatures. The sigmoid was drawn well down, the gut amputated two inches above the growth and the ends sutured. The incision in the lower segment of the rectum was closed by suture down to, but not including the sphincter.

Owing to signs of beginning shock the operation was not farther prolonged. It was believed, too, that better drainage would be assured by leaving the vaginal incision unclosed and that union of the bowel would be promoted by leaving the sphincter open. The gauze was removed from the cul-de-sac and replaced with a light pack of fresh strip gauze. Gauze drains were placed along each side of the rectum.

The patient rallied promptly. The maximum temperature in the first few days was  $101^{\circ}$ , and that but for a few hours. Subsequently it remained below  $100^{\circ}$ . Aside from moderate abdominal distension and gas pains, which were troublesome for three or four days, there was no complication. After the latter period the patient was free from discomfort. The gauze pack and the drains were removed after one week, the drains being renewed for a few days longer.

Union of the anterior wall of the gut failed partially, but the tract was lined with mucosa throughout. The bowel, together with the vaginal wall and the sphincter, were closed by secondary operation. The patient at this time was in much better general condition than before operation, and had gained materially in weight.

Prof. Van Cott, who kindly examined the specimen, reports as follows: "The material consists of the upper portion of the rectum, which

has been for some time immersed in weak alcohol, and then fixed in strong alcohol. Median division of the gut antero-posteriorly reveals on its posterior mucous membrane, and emanating from this, a cauliflower excrescence of the following dimensions: Longitudinal diameter,  $2\frac{1}{2}$  inches; transverse diameter,  $2\frac{1}{4}$  inches; depth, 2 inches. On inspection of the cut surface of the gross sagittal section through the mass of the gut, the typical structure of adenocarcinoma obtains. The neoplasm is rapidly growing inward from the surface of the mucosa, presenting the above described cauliflower excrescence, and also outward into the submucosa and muscularis, and up to the peritoneum. There is no gross evidence that the malignant tissue has progressed beyond the peritoneum.

There is an abundance of appendices epiploicæ on either side of the gut, but no evidence of enlarged lymphatics. Microscopic examination of sections in a plane at right angles to the surface of the growth reveals a structure typical of adenocarcinoma. Gland formation is very abortive and karyokinesis fairly active. Here and there are evidences of moderate infection of the growth, small, round-cell infiltration, coagulation necrosis, etc.



Transverse Section of Rectal Tumor,  $\times 70$ ; No. 3 Objective, No. 2 Eyepiece.

Photomicrograph by Archibald Murray, M.D.

The tumor presents no peculiar characteristics, and appears to be growing with a fair degree of rapidity."

The histologic character of the growth is well shown in the accompanying photomicrograph, made at the Hoagland Laboratory.

Until very recently malignant tumors of the upper portion of the rectum were regarded as practically inoperable. Mathews, even in the last edition of his work, is quite pessimistic concerning the value of resection. Most authorities to-day counsel extirpation in cases in which the growth has not invaded surrounding structures to too great extent, and in which there is no metastasis, provided again the general condition of the patient permits.

Of the various operative methods that have been practiced in high rectal cases the following may be mentioned: When the tumor is small it sometimes may be drawn down, excised, and the wound in the gut closed by a transverse suture line. This has been done by several operators.

The Kraske operation, which sacrifices the coccyx, together with half of the lower portion of the sacrum, and consequently the attachments of the levator and sphincter ani muscles, has been variously modified with a view to preserving the muscular attachments by making osteoplastic flaps.

Rehn operates in two sittings, the gut being freed, drawn down, and the tumor exposed in the first, resection of the tumor being reserved for the second sitting, ten days later. This lessens shock and risk of infection.

A combined abdominal and perineal operation admits of a definite and satisfactory technic. Weir, through an abdominal incision, divides the gut above the tumor, draws the proximal end down through the distal segment, inverting the latter, amputates the loop above the growth, and sutures the ends before replacing it. Not all large tumors can be drawn through the distal segment in this manner.

A combined abdominal and sacral route is favored by certain German surgeons.

Opinions differ with reference to preliminary colostomy. Rarely it may be advisable, with a view to protecting the wound from infection by diverting the fecal current. In marked stenosis the condition of the patient usually is such as to forbid resection. Here a preliminary colostomy may relieve the immediate danger and gain time for putting the patient in condition for the more radical procedure. The inguinal incision may be preferable to the median for purposes of explor-

ation when required, since it prepares the way for colostomy should the latter for any reason be deemed necessary.

Permanent colostomy may be done as a palliative measure in certain instances in which radical operation is contraindicated.

For facility, for neatness and precision of technic, and for comparative freedom from mutilation, the vaginal method of extirpation offers obvious advantages, at least for the gynecologist.

In a case similar to the one reported, were the vagina ample, I would attempt to liberate the upper segment of the gut, invaginate and draw it down before amputation and without opening the lower segment. The tumor, if not too large, could be brought out through the anal orifice. Resection, enterorrhaphy by the method of Maunsell and replacement of the bowel could then be effected without risk of soiling the wound surfaces.

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#### CARDIAC STATUS IN RENAL DISEASE.\*

(Being a consideration of Ch. Thorel's Review.)

BY J. M. VAN COTT, M.D.

Disregarding the old, and now generally abandoned theory that cardiac hypertrophy forms the primary lesion, and renal changes the secondary lesions in nephritis, or that both processes are the synchronous result of one and the same as yet unknown cause, the majority of more modern investigators concur in the opinion that the renal lesions form the primary affection, while cardiac hypertrophy is a secondary and compensatory phenomenon.

Opinions still differ as to the character of renal lesions causing cardiac hypertrophy, the degree and frequency of such hypertrophy, and the relation of the various chambers of the heart to the hypertrophy.

To-day the belief is, that, aside from the rare cases of hypertrophy in the acute nephritis of scarlatina, this phenomenon is oftenest met in chronic forms of Bright's disease. But since the differentiation of individual forms of chronic

\* Read at a meeting of the Associated Physicians of Long Island, Jan. 28, 1905.

nephritis meets with such difficulty, and is so different with individual authorities, it is readily understood why assertions regarding cardiac hypertrophy vary so widely in these cases, and stated values range between 50% and 90% of them.

Relative to the character of the cardiac hypertrophy, Senator<sup>1</sup> says, that in genuine contracting kidneys it is simple, and in the other forms of chronic Bright's, *i. e.*, the so-called secondary, and particularly the arterio-sclerotic variety, eccentric hypertrophy with compensating dilatation predominates. He here points out the fact, that these relations are better determined clinically than by autopsy, for the reason, first that the relative dimensions of the cardiac cavities in the cadaver yield no certain criterion for their relations *intra vitam*; while, on the other hand, the determination of the form of contracting kidney and the cadaver meets with certain difficulties.

Hirsch, in opposition to this view, states that the finding of different forms of cardiac hypertrophy in the various kinds of contracting kidney is unwarrantable.

Also as to the participation of the separate chambers of the heart in the hypertrophy, opinions of investigators differ, many still believing that only the left ventricle, others the right ventricle also, and indeed the entire myocardium are involved, inclusive of the auricles.

The question as to the behavior of the right ventricle especially has led to much discussion, with the end result, that increase in its volume is considered more an occasional phenomenon dependent upon complicating pulmonic changes. (Traube, Cohnheim, Wagner).

Others dispute this and seek—as Rosenbach, Senator, etc.—to show that the volume-increase in the right ventricle is simply a hypertrophy by continuity of structure with the left ventricle; and they explain this on the reasoning, that with the left ventricular hypertrophy, more blood is injected into the coronaries, with consequent hypernutrition and hypertrophy of the right ventricle. This hypothesis is, however, readily disproved at the autopsy table. The Munich school assumed, that in primary renal cirrhosis, left ventricular hypertrophy obtains, while both right and left hypertrophy only occurs in the stasis-nephritis of beer soakers; but later researches do not confirm this view, and Hirsch states that the heart of the beer soaker cannot be distinguished from that of other nephritics.

Efforts to throw light upon these relations by

experimental methods have failed to yield results, since the extirpation of one kidney was succeeded indifferently by cardiac hypertrophy, and failure of the same; variations which, according to Senator, depend in the last analysis upon individual differences and the age of the experimental animal.

The principal ground for these widely differing results lies in failure to properly differentiate the varieties of renal lesion causing cardiac hypertrophy, and the further fact that complicating diseases which must obscure the decision are included with the cases.

The inaccuracies of the present methods of investigation, essentially consisting in weighing and measuring of the dead heart cannot be denied; since, in nephritics, the whole left ventricle very commonly ceases action in systole, and the right ventricle in diastole,—the linear measurements thus accruing practically without exception to the benefit of the left ventricle. This lack has been remedied by the Liepzig school in the last few years, especially by the work of Hasenfeld<sup>2</sup> and Hirsch,<sup>3</sup> who based their investigations on the exact method of W. Müller in weighing the heart. With the help of this method Hasenfeld reckons that in typical renal cirrhosis without concomitant arterio-sclerosis, or with only moderate changes in the splanchnic vessels, the collective divisions of the heart, auricles and ventricles, are hypertrophic, while with concomitant arterio-sclerosis of the splanchnic vessels, and probably also of the aorta, the left ventricular hypertrophy predominates, because this ventricle under these relations has particularly increased work to accomplish. Hirsch states that he found in twelve cases of uncomplicated renal cirrhosis, nine times hypertrophy of the whole myocardium, but remarks that in the beginning of the process left ventricular hypertrophy predominated, and that the volume-increase in the remainder of the heart only occurred in the later course of the disease. He further remarks that the stage of contraction is less significant in the production of hypertrophy than the degree of intensity and spread of the lesion in the parenchyma of the kidney; and that the general cardiac hypertrophy becomes distinct in proportion to this.

In agreement with Hasenfeld he points especially to the constant appearance of auricular hypertrophy in nephritics, and draws the conclusion that obstruction to the circulation in nephritis increases the dynamics of the entire heart.

We do not know the exact facts concerning the

nature of these circulatory hindrances, so that in this direction we are, at present at least, driven to certain hypotheses; and here two essentially different theories come to our notice.

The Traube-Cohnheim theory seeks the origin of hypertrophy, particularly in renal cirrhosis, in purely mechanical conditions; and contends that, in consequence of a general destruction of the capillary system in the contracting kidneys, the pressure in the aortic system rises, and the heart, in consequence of increased work, hypertrophies. A second mechanical factor should be sought in hindrance of the excretion of water by the diseased kidney, whereby hydraemia, and consequent increase in the work of the heart with hypertrophy, particularly of the left ventricle, would result.

Against this at first sight seemingly plausible theory a series of objections has arisen; of which a very weighty one is that both renal arteries can be ligated without raising the aortic pressure. Furthermore, we know that a much more extensive destruction of capillaries may exist than is found in nephritis, without lasting effect upon blood pressure; and on the other hand, it has been shown that a simple fluid increase in the blood occasions no cardiac hypertrophy, for the increase of fluid may be reduced through its escape from other organs—stomach, intestines—than the kidneys, and thus normal condition of fluid in the blood be restored. Also the circumstance that exactly that renal lesion which first and foremost produces cardiac hypertrophy, *i. e.*, cirrhosis, does not lead to diminution, but, on the contrary, to increase in the output of fluid from the kidneys, is not in harmony with Traube's assumption, any more than his hypothesis explains cardiac hypertrophy. On these grounds Cohnheim so changed the Traube hypothesis as to indicate that the influx of blood into the renal artery remained unchanged, despite the resistance present in the kidney, as long as the amount of that material in the urine remained unchanged which regulates the contraction of the smaller arteries. This, however, is of no service, since such vaso-regulation is illusory, in view of the diseased condition of the renal vessels, and again, because such contractions could have no influence upon the aortic pressure, on the grounds above stated, that ligation of the renal vessels produced no such effect.

The Rosenbach-Senator theory is that cardiac hypertrophy proceeds from a faulty chemical synthesis of the blood in nephritics. The question, however, as to the nature of this faulty synthesis,

or the manner of its influence on the vascular apparatus is not determined.

Many assume that such blood acts directly upon the myocardium, while others are of the opinion that the influence is immediately exerted upon the vessels in such a way that an irritant induces strong contraction of the arteries, with consequent hypertrophy of their muscularis and resultant increased resistance, rise of pressure, and cardiac hypertrophy from increased work.<sup>5</sup>

This view is expressed by G. Johnson, who claimed, in harmony with Bright's original assumption, that the faulty synthesis of the blood in nephritics was caused by the retention in the blood of urinary substances. The irritation of these causes vaso-constriction of the smaller arteries, increased resistance, increased pressure, and cardiac hypertrophy from overwork. This showing is not, however, in harmony with the fact that in many cases of renal cirrhosis with cardiac hypertrophy no evidence of retention of urinary substances in the body was found (Rosenstein<sup>6</sup>), while again, according to Johnson's theory, only the volume-increase in the left ventricle, and not in the whole heart, is explained.

In consequence of this, Ewald concluded that a heightened viscosity of the blood was caused by the disturbed renal function, which increased the resistance in the capillary system, and so calling for more labor from the heart, necessitated increase in volume of this organ. Thus the hypertrophy of the arterial muscularis was the result of the increased capillary resistance and not its cause. But this hypothesis also, which Israel failed to sustain experimentally by persistent injections of urea into animals, suffers the lack, that a heightened viscosity of the blood of nephritics is not proven. Many indeed, claim on the contrary, a lessening of friction-resistance. And finally, with the assistance of this hypothesis, only left ventricular hypertrophy is explained, while, as Hasenfeld and Hirsch have pointed out, the auricular hypertrophy is not explained, excepting by an assumption of the improbable existence of marked increase of friction-resistance in the heart itself.

Very lately Senator<sup>4</sup> pointed out that as a consequence of the variations anatomical and clinical, in the cases of nephritis, no accounting for the cardiac hypertrophy is possible; and also that the investigations in his clinic of H. Strauss of the blood synthesis in cases of chronic parenchymatous nephritis and pronounced cirrhosis show essential differences in the two forms.

These differences concern:

1. Molecular concentration of the blood, which in chronic parenchymatous nephritis is normal, or in any event not increased; in cirrhosis, on the contrary, almost always increased.

2. The albumen and specific gravity of the blood are both diminished in chronic parenchymatous nephritis; in cirrhosis, usually normal.

3. The "residuary nitrogen," *i. e.*, that nitrogen which remains after eliminating albumen, and which contains all the nitrogen-holding bodies. This is not increased in the blood of chronic parenchymatous nephritis, but is increased in cirrhosis. This coincides with the fact that the toxicity of the blood, proven by injection into rabbits, is less in parenchymatous nephritis, and greater in cirrhosis.

Senator regards it as certain, after determining these facts, that in chronic parenchymatous or subacute nephritis in consequence of insufficient renal activity a faulty blood property arises whose irritating quality acts upon the entire vascular system, including large and small vessels, and also the heart; whereby, according to his belief, the most important role is played by these nitrogenous extractive materials (residuary nitrogen).

This irritant acts variously in the various forms of nephritis:

1. In acute nephritis, in the nature of the case most strongly; so that in consequence of nutrition disturbances and resultant increased porosity of the vessels, œdema ensues.

The œdema has the effect of relieving the blood of a portion of the harmful nitrogenous extractives; since the fluid of œdema contains as much of them as the blood itself.

If recovery, with disappearance of the œdema takes place, the vessels resume their normal conditions, and there is, excepting in very rare cases, no cardiac hypertrophy.

According to Senator the relations are of a like nature in:

2. Chronic parenchymatous nephritis, only that the irritant is here not so violent. The advent of cardiac hypertrophy depends upon the violence and duration of the irritation, whereby the circumstance should be regarded as to the degree to which the blood has been relieved of harmful substances through œdema.

Aside from harmful action upon the entire heart, two other forces operate upon the left ventricle to cause its hypertrophy. First, he states, that the slow, progressive irritation of the vessels results in their contraction, with thickening of the muscularis, and inflammatory hyperplasia of the remaining coats. This lesion obtains principally

in the systemic circulation, and thus increases the resistance here, while in the pulmonary circulation, but little vascular tonus exists, and therefore much less resistance, with increased work for the right heart is set up, than is the case with the contracted systemic vessels, and the left heart.

Second, the pressure of œdema upon the vessels retards more or less markedly the circulation, an effect principally felt by the left ventricle since the œdema occurs principally and longest in the various districts of the systemic vessels, while pulmonary œdema is of much shorter duration, since it leads to death when persistent.

3. Finally. In chronic interstitial nephritis (renal cirrhosis), the loading up of the blood with these nitrogenous extractives is very gradual, because of the extraordinarily insidious development and protracted course of the disease, so that the vessels are not damaged to the point of abnormal porosity. Hence no œdema. The slow but constant progressive action of these extractives, however, occasions here again, primarily, symmetrical cardiac hypertrophy, and secondarily, vascular contraction followed by thickening of the systemic arteries, thus increasing the work of the left ventricle. In other words, special conditions which produce left ventricular hypertrophy are here brought to bear which have, on the grounds already stated, no such influence upon the right heart. And this second cause, which is only significant for the left ventricle, appears to be particularly active in just this form of nephritis—a fact which explains the extraordinary excess of hypertrophy here, in the left ventricle.

Concerning the cases with concomitant arteriosclerosis, Hirsch, Hasenfield and Senator agree, that the left ventricle is affected either alone, or in preponderance, and at the same time, myocardial increase is occasioned by the renal lesion.

The variable condition of the heart in such cases of renal cirrhosis in combination with arterio-sclerosis depends, according to Senator, essentially upon the intensity of the irritant; if the irritant emanating from the blood be sufficient to alone cause a cardiac hypertrophy, then the whole heart shares in the hypertrophy, although on the grounds above stated, the left ventricle shows the greatest changes; but if the irritant be not sufficient, only left ventricular hypertrophy occurs.

On the further course of cardiac hypertrophy in nephritis no general statement can be made; much more must each separate case be observed,

on account of the possible appearance of various complications.

Since in many cases of cirrhosis with complicating arterio-sclerosis, the coronaries are involved, with consequent myocardial cicatrization, there arrives sooner or later, a time when such a heart, weakened by local degenerations, is inadequate to cope with the permanently increased pressure, and further progress of the renal lesion.

In genuine renal cirrhosis, these conditions which temporarily or permanently compromise myocardial nutrition, and lead to secondary cardiac dilatation, according to Senator, first appear in advanced cases, and later than in the other forms of nephritis; especially are these complications caused by changes in the smaller arteries, while in parenchymatous nephritis the softening and dilatation of the heart are called forth by the oedema and generally bad nutrition.

Under all these conditions the heart is insufficient; it dilates, and the further course of the case is either uræmia in consequence of cardiac weakness, or the usual result of such weakness, hepatic enlargement, oedema, etc.

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#### REPORT OF PRESENT CONDITION OF CASES OPERATED UPON FOR CONGENITAL DISLO- CATION OF HIP.\*

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and Crippled.

Being frequently questioned by the profession in regard to the result obtained by Professor Lorenz on the case of congenital dislocation of the hip reduced by him at the Kings County Hospital, it has seemed proper to the writer to report the present condition of that case and also

of his own cases. It must be with the understanding, however, that it will be another two or three years before the final result should be looked for. These children having walked for several years on a false joint, require considerable time to accommodate themselves to the new conditions. And the hip being necessarily fixed for many months in plaster, retains a certain amount of stiffness for some time. In examining the cases presented, then, one must bear that in mind, or else it is natural to believe "the last case of that man is worse than the first," or to think of the saying of a German professor in regard to the double dislocation operated upon by Lorenz: "Before the operation the child walked like a duck, and afterwards like a lame duck."

May D., 7 years. Dorsal dislocation of right hip.

Operated upon by Prof. Lorenz at the Kings County Hospital, December 20, 1902. Second plaster applied last week in August, 1903, with about 45° abduction. October 28, 1903, third plaster, with lessened abduction, was applied, which was kept on about two months. For a few weeks longer some support was obtained by a snug flannel bandage spica. Before the operation the measurements from the anterior spine of ilium to internal malleolus were: Right 23½, left 24¼—¾ inch shortening—when the first plaster was removed, the measurements, with legs equally abducted, were about equal. The X-ray plate taken at the time appeared to show the head in a somewhat anterior position, although on examination it appeared very close to proper position. During all the time the plaster was on, daily exercise for the back muscles, done in prone position, was ordered, also such exercises as could be done for the leg. When plaster treatment was discontinued, the hip was partially fixed of course in about 30° abduction and extreme rotation outwards. Daily massage and stretching of the contracted tissues, with the same exercises for the back muscles, and exercising for all the muscles in the leg, particularly the abductors, were directed to be carried out. The child has been somewhat neglected by her family, so the conditions are not quite so advanced as in one of the writer's cases done later. The head of the bone is now evidently in an anteriorly placed position—and there is a shortening of ¾ inch. The leg is held slightly abducted, and rotated outward when walking. There is quite a marked limp, not the lunging limp of a posterior dislocation, but one of stiffness and short leg combined with habit. The hip cannot be flexed

\* Read before the Associated Physicians of Long Island.



to quite a right angle— $100^{\circ}$ —and to that extent only by abduction with flexion. The thigh can be rotated inwards nearly to a straight position. The younger a child is, and the more thorough the after-treatment, the quicker a normal gait will be acquired. Prof. Lorenz claims that this transposition from a posterior to an anterior dislocation—though not an anatomical cure—is, however, a practical cure. He expects to have in selected cases only 10% where the head remains in the acetabulum, and 50-60% more, anteriorly placed.

Kathleen B. Right dorsal dislocation.

Operation January 14, 1903, at 6 years of age, assisted by Drs. Clayland and Truslow.

This child before the operation had a marked lateral curvature of the spine, with rotation which has evidently resulted from the shortening of one leg. The first plaster was kept on seven months, and the second and third about two months each. Before the operation the legs measured—R.  $23\frac{1}{2}$ , L.  $24\frac{1}{4}$ — $\frac{3}{4}$  inch shortening. When the first plaster was removed there was about  $\frac{1}{4}$  inch shortening, and now as much as before the operation. The head of the femur is anteriorly placed. The usual exercises and after-treatment was directed. There is still slight abduction and rotation outwards, with some stiffness—the condition being very similar to the preceding case, except that the shortening is greater.

Stephen R. Double dorsal dislocation.

He was operated upon when two years old, but unsuccessfully. Operation on both hips with Drs. Clayland and Hatch, after two months of extension in bed with heavy weights. The child was  $8\frac{1}{2}$  years of age—past the limit given by Prof. Lorenz for double dislocation. This case was very difficult, necessitating all taking turns. Considerable force had to be used, and the right femur was fractured by the writer in the upper third. Three months later, June, 1903, the left hip was reduced. April, 1904, the last plaster

was removed, and head found in acetabulum. This was confirmed by the X-ray. July 25, 1904, operation on right hip, which was difficult, and it seemed uncertain at the time whether the head went into the acetabulum or merely into the anterior position. It was felt, however, that nothing more could be accomplished, and that the boy would come out very fortunately with that result. The right hip is still in plaster, and there remains considerable abduction and rotation outwards of the left, but the head has remained in place.

John K. Dorsal dislocation left hip.

Before operation R. leg 19, L.  $18\frac{1}{4}$ . Operation June 29, 1903, at age of six years, with Drs. Clayland and Hatch. When plaster was removed, leg measures were equal,  $21\frac{1}{8}$ —taken with legs equally abducted, and the head found in the acetabulum—confirmed by the X-ray. In November, 1904, boy had diphtheria, followed by partial paralysis both legs and arms as well as throat. The hip is still slightly abducted and rotated outwards. The affected leg now measures about  $\frac{3}{8}$  inch longer than the other.

Katie C.

Tubercular disease of the right hip—congenital dorsal dislocation left hip. At four years of age operation on dislocation was refused—later returned with a diseased joint. After being under treatment for four years for the disease, she was seen by Prof. Lorenz, when he was at Kings County Hospital, who advised attempt at reduction, although she was over nine. After two months of stretching, the operation was tried. It was very difficult, and the femur was fractured in the upper third. In this case it may be partly accounted for by the presence of some general weakness due to the tubercular disease. Further attempts were refused.

Dorothy M. Anterior dislocation left hip.

Operation June 26, 1903, at  $3\frac{1}{2}$  years. Reduction rather easily effected. Plaster changed

To summarize the writer's cases:

*Before Operation.*

*Result.*

- |   |                               |
|---|-------------------------------|
| 1. Kathleen B. Posterior dislocation.....           | Anterior dislocation.         |
| 2. Stephen R. (Left hip). Posterior dislocation.... | Anatomical cure.              |
| 3. John K. Posterior dislocation .....              | Anatomical cure.              |
| 4. Katie C. Posterior dislocation .....             | Fracture—failure.             |
| 5. Stephen R. (Right hip). Posterior dislocation..  | Probably anterior dislocation |
| 6. Dorothy M. Anterior dislocation .....            | Anatomical cure.              |
| 7. Annabella J. Anterior dislocation .....          | Anterior dislocation.         |
| Anatomical cures .....                              | 3—43%.                        |
| Improved—Posterior to anterior dislocation .....    | 2—28%.                        |
| Failures .....                                      | 2—28%.                        |

March, 1904, and last plaster June, 1904. This was removed in November. Plaster treatment was continued longer in this case than usual, as at the end of a year the joint did not feel stable, although apparently in place. Before the operation there was  $\frac{5}{8}$  inch shortening—it is now hardly a quarter, and the head seems secure in the acetabulum. This is confirmed by the X-ray. There is still some abduction and rotation outwards.

Annabella J. Anterior dislocation left hip.

Measurements, R. A. 14, L. A.  $13\frac{1}{2}$ . Operation February 8, 1904, at age of 18 months. Reduction effected easily, but there seemed not much depth to the acetabulum. August 29 the plaster was changed, and in December the last plaster. From examination and the X-ray, the head is apparently placed anteriorly.

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#### CONSERVATISM AND RADICALISM IN THE PRACTICE OF MEDICINE\*

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Conservatism and radicalism are terms which possess considerable elasticity of meaning, but they are not ambiguous. We all understand what they refer to. They describe with reasonable clearness certain fundamental characteristics which deeply differentiate people in politics, business, the professions, and generally. There are few people of sufficient individuality to be classified at all who are not naturally or by training either conservatives or radicals. In most countries the chief political parties divide essentially along this line of cleavage. Business men show a similar differentiation: some are content with small but safe profits, while others are inclined to speculate. In the professions the same distinction can be perceived; and it is perhaps most pronounced among members of the medical profession, in whose practical application of an imperfect science there is afforded a wide range for speculative action.

The distinction between conservative and radical physicians is a familiar one, and no doubt all of you can easily place in either the radical or the conservative camp most of the physicians whom you know well. The fact that there are some whose medical character, owing to ignorance or lack of individuality, is not clearly defined, and the fact that not a few temporarily change sides

for occasional reasons, does not materially affect our argument.

The chief points of difference between the conservative and the radical physician may be summarized somewhat as follows: The conservative physician holds in especially high esteem the positive knowledge which medical science has already accumulated, and his attitude toward new things whose value has not been established is apt to be one of indifference or passive expectancy. He prefers the remedies and methods of treatment whose merits have been determined beyond question to those whose utility is still unproved, though the latter may promise greater results. And in order to induce him to substitute for an old and trustworthy remedy a new one it is not enough to prove that the new one is as good as the old one, it must be proved to be better. He does not love novelty for its own sake. The methods of advance in medical science which appeal to him most strongly are the slow but sure ones based on pathology and laboratory experiment and long-continued clinical research. Empiricism and hasty deductions from insufficient premises are foreign to his disposition. He dislikes to prescribe remedies for which the indications are not plain, and always tries to avoid the very common mistake of giving too much treatment. Yet he does not altogether disdain experimentation with new and unproved remedies. He tries them in cases where they will do no harm and in hopeless or desperate cases which have resisted all well-established methods of treatment. But while he recognizes that desperate diseases sometimes justify desperate remedies, he is careful not to use such remedies if they are more dangerous than the diseases themselves. He respects the right of every sick person to die naturally rather than therapeutically. In general he prefers to let the radicals do the experimenting with doubtful or dangerous remedies while he stands ready to give his own patients the benefit of any good which may come from their experiments. The conservative physician is particularly mindful of the fact that the most important of all therapeutic agents is the *vis medicatrix naturæ*, and he carefully avoids prescribing anything that will interfere with the operation of this agent.

The radical physician, on the other hand, eternally hankers after new things. He is very susceptible to the charms of novelty. He readily gives up old and reliable remedies for new ones which are at the best no better, and which may prove worse or worthless. He listens with eager-

\* Read before the Long Island Medical Society, January 3, 1905.

ness and credulity to extravagant laudations of new remedies by his fellow-radicals, and is prone to draw from insufficient premises conclusions to which he holds with tenacity and enthusiasm, and on which he acts with confidence. As a surgeon he operates boldly in doubtful cases without carefully weighing the dangers of the operation against its possible benefits. It is his habit to exaggerate possible benefits and to minimize dangers. In therapeutics he falls into this fallacy: One or a few patients with a certain disease got well while taking a certain treatment; therefore that treatment is a sure cure for that disease. The radical physician is by nature a speculator, a gambler. He likes to take chances. Sometimes he wins, but usually he loses, because in the game he plays the chances are against him.

It is a fact to be deplored that radicalism prevails very largely in our present practice. That it will prevail less in the future is a reasonable hope based on the steady advance of medical science which necessarily will restrict the field for speculation and guess work. But that it will always be in evidence is probable, not only because it appeals to the desire for novelty and the gambling instinct which are naturally strong in many people, but also because it gives opportunities for advertising which conservatism does not. The performer of an unwarranted operation or the discoverer of a therapeutic mare's nest can at least bring himself temporarily into notice.

The extent to which radicalism prevails is clearly shown by a glance at recent medical history. We find that history filled with the mistakes of the radicals. These mistakes lie all around us. We have been led into some of them ourselves. We find them in the experience of our friends. We find them recorded in medical literature. It is, perhaps, the more respectable of them, so to speak, which are recorded in medical literature. Let me refer very briefly to a few of the more respectable of these mistakes.

A few years ago radicalism controlled the treatment of appendicitis, and every one convicted of that disease was immediately condemned to operation. Now more conservative principles govern in the treatment of that disease.

Many specific methods of treatment for typhoid fever, based on the principle of intestinal antiseptics, have been advocated during the past ten or fifteen years. What has become of them? Who uses the Woodbridge treatment now? Who will use acetozone to-morrow? No good evidence has been found to show that intestinal antiseptics favorably affect the course of typhoid

fever, unless it may be by preventing reinfection, and that has not yet been proved. The germs entrenched in the tissues of Peyer's patches laugh at the attempts of the radicals to get at them with antiseptics mixed with the intestinal contents.

Enthusiastic attempts have been made to kill the tubercular germ with antiseptics inhaled into the lungs or introduced into the blood, but none powerful enough to accomplish the desired object without destroying the life of the patient have been found or are likely to be found. Tuberculin, which was a scientific deduction from insufficient premises, proved to be a melancholy failure. At the present time all the radical remedies for consumption are pretty well discredited, and conservative treatment, whose essential features are diet, hygiene and exercise, is generally conceded to be the only effective treatment at our command.

The history of the coal-tar derivatives, antifebrin, antipyrin and phenacetine, is one of extravagant abuse followed by relapse very nearly into innocuous desuetude. Only a few years ago these drugs were used wherever there was fever. Pneumonia patients were killed by them; typhoid hearts were weakened by them. As antipyretics they are no longer in good use; and even as analgesics they are used very sparingly and in much smaller doses than formerly.

Very instructive is the meteoric career of the X-ray in medicine. The radicals boomed it so enthusiastically that the conservatives were almost carried off their feet, and it seemed at one time as if every physician would have to install an X-ray apparatus in his office or become a back number. It promised to cure cancer and consumption, and even filled the bald heads with hope. What is its status now? It remains a valuable aid in diagnosis, but its therapeutic range is being contracted more and more every day as its failures and the dangers from its use are revealed.

The mistakes of radicalism are beyond counting. Still, there is something to be said in its favor. It performs a very important function in acting as a counterpoise to prevent conservatism from becoming extreme. And it really promotes advance in medical science, though it may not itself always advance in the right direction. It stimulates slow-moving medical science to quicken her paces and sometimes gives her valuable suggestions. And more than one important truth has been hit upon by a bold guess or a lucky chance or a hasty deduction from imperfect data. But after we grant to radicalism all the credit to which it is justly entitled, the fact remains

that the welfare of our patients, which should always be the first consideration, is in general best promoted by conservative treatment.

In concluding this brief and fragmentary discussion of a large and complicated subject, many of the phases of which I have not even touched upon, I present a short report of a case which, besides being intrinsically interesting, illustrates very well the value of conservatism in medical practice, particularly, that form of conservatism which consists in not giving too much treatment. The case was one of

URINARY SEPTICAEMIA COMPLICATING CHRONIC PROSTATIS.

The patient, a man of eighty-two, and still active in business, was told more than twenty years ago by a physician of the highest eminence in Brooklyn that he had chronic Bright's disease, and would die inside of two years. He ignored this prognosis, went about his business as usual, and the condition of his kidneys seemed to improve as the years went on. He had several attacks of uremia, the last occurring about four years ago under my observation, from which he easily recovered. For some years past he suffered from a moderately enlarged prostate, which, in the latter part of September, 1903, became complicated with chronic cystitis. For this cystitis he consulted, on November 1, 1903, Dr. Peet of Manhattan, who prescribed a bland diet and urotropin, and referred him to me for subsequent treatment.

Four days later, on November 4, I was called to the case. I found the patient delirious, with an axillary temperature of  $104^{\circ}$ , and a history of having had a severe chill two hours before. His tongue was thickly coated. His lungs were normal. His urine, which was passed every fifteen to thirty minutes, was loaded with pus and bacteria.

I put him to bed, ordered milk diet, gave a sponge bath for the fever, prescribed a sixtieth of a grain of strychnine sulphate every four hours and five grains of sodium benzoate every four hours, and continued the urotropin in five grain doses four times a day.

I did *not* wash out the patient's bladder, and this omission of a remedial measure that was plainly indicated is the feature in the treatment of this case which I wish to emphasize. The indications for lavage were certainly present in the bladder filled with purulent urine; and there were no good reasons to think that the cause of the sepsis lay outside of the bladder and prostate. But there were also contraindications to lavage

in this case, and I weighed them very carefully against the indications. By lavage the purulent fluid from which sepsis was soaking into the patient's blood could be removed from the bladder and an antiseptic solution applied directly to the vesical mucosa. That would be very good. But such a procedure would subject an old man to urethral instrumentation for the first time in his life and very likely increase the existing chronic disease in his kidneys, and also increase the liability of his kidneys to infection, if that had not already taken place. At the best, if I succeeded in checking the sepsis by lavage and did not spread it farther, I would make the aged patient a slave of the catheter for the few days, weeks or months which seemed to be all of the portion of life left to him. And if, as seemed likely from his age and condition, he was going to die anyway from the effects of the present attack, I preferred not to be accessory to his death. So, instead of giving him the more radical and extensive treatment which included lavage, I trusted entirely to urotropin, which, properly used, is a perfectly safe agent for sterilizing the bladder; to supporting measures, and to the vigorous constitution which had enabled the patient to withstand successfully for more than a score of years a chronic nephritis and to defy for that period the bad prognosis of a physician of the highest skill and reputation. The result vindicated this conservatism.

The temperature came down the following day, but the delirium continued during that and the day after. Then for five days the patient was rational and without fever, though restless and very weak.

On November 12th, six days after the first chill, he had a second chill, which was followed by a rise of temperature to  $103^{\circ}$ . (This and all temperatures here mentioned were axillary.) On the 13th a third chill occurred, which was followed by a rise of temperature to  $106^{\circ}$ . This height was reached at midnight. At eight the next morning the temperature was  $96.5^{\circ}$ , a fall of nearly ten degrees in eight hours. On the 14th there was a fourth chill, with a rise of temperature to  $103^{\circ}$ , and on the 15th a fifth, with a rise to  $105^{\circ}$ . After that there were no more chills, and the temperature became normal.

During this severe septic attack the patient became very feeble, but at no time was he too weak to get out of bed, which he did occasionally despite the efforts of his attendants to restrain him. His pulse was at times very feeble, irregular and intermittent. His tongue had the dry, scarlet appearance characteristic of urinary septicaemia, and

dryness of the mouth was the symptom which distressed him most.

The treatment during the second period of chills was not changed from that originally given except that the urotropin was administered every four hours instead of four times a day, and moderate doses of bromide of sodium and very small doses of morphine were given to relieve the great restlessness from which the patient suffered.

Under this treatment the patient so far recovered that he was able in the latter part of December to go to his place of business in a closed carriage. His urine was then clear, and he did not pass it oftener than once every two or three hours, which was about the frequency before the attack of cystitis occurred. He was considerably weaker in body than before—complained of getting tired very quickly on slight exertion—but was not markedly so in mind. He took no heart stimulant except an occasional small dose of strychnine.

Considering the age of this patient and the extent of the septic infection, as shown by the severity of the chills and the height of the fever, his recovery was a remarkable event, to which, it may justly be claimed, the conservatism of his treatment contributed materially.

#### **A CASE OF EPITHELIOMA OF EXTERNAL AUDITORY CANAL, TYMPANIC CAVITY AND MASTOID.**

BY B. C. COLLINS, M.D.

Patient and slides shown at Section meeting O. R. S. The patient was seen first on the 16th day of January, 1904. Referred by his family physician for a discharging right ear. The patient, male, 21 years of age, an athlete in the best of condition. It seems that he had no trouble previous to three weeks ago, when playing football he was struck a hard blow back of ear, which rendered him unconscious, but did not interfere with his resuming the game. A few days later his ear began to discharge, not preceded by pain, and he consulted his family physician. Syringing the ear with an antiseptic solution was advised, and he was seen at intervals for three weeks, with no diminution of discharge. For four days previous to my seeing him he had had severe continuous pain, and had been unable to sleep the night before.

On examination I found the meatus swollen and full of pus, the mastoid swollen and red, but not oedematous, pressure in front of tragus produced great pain, but no pain on pressure over mastoid. A large polypoid mass was seen to

fill the meatus, and the lumen of canal was greatly diminished. I removed the polypus with the snare but could not make out a pedicle or its attachment.

He reported again in three days free from pain, discharge very slight, the swelling of mastoid had disappeared, and the tenderness in front of tragus had nearly subsided, but the narrowing of the meatus near the drum persisted. Still from the great improvement in his condition I predicted a disease of short duration, advised continuing the syringing, and to report again in a week.

This time I found the patient comfortable, discharge slight, but inspection showed a renewal of the polypoid mass. I advised an operation for its complete removal, but consent was refused. I asked Dr. Braislin to see the case with me and he could make no diagnosis, but felt as I did, that an exploratory operation was in order. I removed a piece of the growth and had it examined by Dr. Schirmer, who pronounced it epithelioma, the pearly cells and nests showing very nicely.

I then told the patient the nature of the disease and its danger, and he consented to an operation. At the time I thought the growth was merely attached to the canal wall and all that would be necessary was to dissect and detach the cartilagenous from the bony canal, removing that portion of the membrane and cartilagenous canal involved and allow it to granulate, but I found an entirely different condition of affairs.

I might here remark that the patient felt well enough to compete in a skating race the night before the operation.

I operated at the Brooklyn Eye and Ear Hospital, assisted by Dr. Shattuck and the house surgeon. On dissecting and exposing the bony auditory canal, I found its posterior wall necrosed, the outside loosened and laying in a mass of granulation, the tympani cavity filled with granulation, so I decided to open the antrum. On removing the outer table of the mastoid I exposed a black mass of necroses which had completely gutted the entire mastoid process and posterior bony wall of the external auditory canal.

This necrosis extended posteriorly to expose the dura and lateral sinus, above opening the cerebral fossil and the mastoid apex below. I decided to treat the soft parts after removing all involved after the pansa flap method, as one would for the radical mastoid operation, except leaving a small gauze drain posteriorly in the apex. The result was very good, healing was

slow, and as I would not promise a cure, the case left me before it was healed and went under the care of an irregular practitioner. Shortly after it became infected, and is running yet—new growths appearing at intervals.

Epitheliomati in the middle ear and mastoid process arise, according to the observations of Foynlue, Wilde, Schwartz, Lucae and others, either during the course of an existing suppuration of the middle ear, or after the cessation of a careous process in the temporal bone. For this reason the growths protruding through the perforation or in the canal are mistaken for polypæ until their repeated occurrence or a microscopical examination reveal their nature. In the great majority of cases a fatal result is caused by meningitis, abscess of the brain, or sinus thrombosis.

Politzer says epithelial new formations develop most frequently on the auricle and external canal; less frequently in the tympanic cavity and mastoid process.

Did the blow on the mastoid produce the disease? I say yes, and think the necrosis in the mastoid started before the ear began to discharge and that the pus made its way through the necrotic canal wall before the tympanic cavity became involved. In spite of the fact that other table was hard.

I feel that at the time I first saw the case when he was having great pain and tenderness over mastoid was the time of beginning mastoid necrosis, and that the removal of the granulation from the posterior canal wall gave vent to the pus or drainage, and his pain was relieved. I do not feel that any one would have operated at this time, however, as the relief was so great and such an improvement followed. Then again, the patient would never have consented, as he did not feel at all unwell.

The patient's general condition would not have led one to believe that his temporal bone could have undergone such necrosis, and it is hard to say what prevented his lateral sinus or cerebrum from infection, as both were exposed, but of course the dura was not injured. No rise of temperature at any stage before the operation.

#### ELEPHANTIASIS OF THE SCROTUM.

WILLIAM FRANCIS CAMPBELL, M.D.

In reporting the following case I desire to call attention to the mechanical pressure of a truss worn for many years as a causative factor in the etiology of this troublesome affection.

Patient A. G. was referred to me by Drs. Boes of Brooklyn-New York, and gave the following history:

Born in Germany, age 58, married, bricklayer by occupation. Came to America thirty years ago. Always enjoyed good health. Twenty-four years ago, after lifting a heavy weight, noticed a protrusion in the left inguinal region, and was advised to wear a truss.

Twelve years ago he noticed a protrusion on the right side, and was advised to wear a truss.

For the respective periods of twenty-five and twelve years he has worn first a single, then a double truss. He weighs about 225 lbs. His occupation required frequent bending over, and there is consequently much pressure over the inguinal rings, varying according to the patient's attitude.

I first saw the patient last June. He gave a history of scrotal enlargement beginning four years ago. The scrotum was enormously hypertrophied, and presented the appearance as seen in Figure I. The penis was hidden in a fold of the skin, and could be seen only by being dislodged. The skin was thick, brawny, corrugated, truly *elephantine* in texture. There was no pain, no history of local inflammatory changes, no disease of the inguinal gland.

The history simply emphasized three things:

- 1st. Inguinal hernia double.
- 2d. Constant wearing of truss over long period.
- 3d. Obstruction to lymph stream resulting in the enormous growth of scrotal tissue.

Patient was advised to have the scrotum amputated, and consented to the operation last July. Two incisions were made on either side in the inguinal region following the course of the cord. The cord and testicles were then dissected out of the scrotum and drawn aside, the scrotum was then amputated. Clamps being applied before incisions were made, the loss of blood was greatly minimized.

After removing the scrotum a new scrotum had to be formed, and covering for the penis provided. This was satisfactorily accomplished by dissecting flaps of skin from the perineum and sides of the thigh. The result is shown in Fig. 2.

Patient suffered little shock from the operation, and returned home in three weeks. Parts of the incision were slow in healing, but finally satisfactory union was obtained. When last seen patient felt perfectly well, working at his trade every day, and grateful for the relief afforded from this burdensome affliction.

The interest in this case centers in its etiology.

We are aware that the underlying cause in elephantiasis is lymph stasis caused by lymphatic obstruction from some cause. Erysipelatoid inflammations, invasion of the *Filaria sanguinis hominis*, extirpation of the inguinal glands, mechanical pressure from new growths are the common causes. I have not found however any cases reported assigning *truss pressure* as the manifest cause of this affection. If the lymph circulation be recalled it will be seen that the scrotum is extremely rich in lymphatics, that it is covered by a network of branches which are collected in large trunks, ten or fifteen on each side. These trunks terminate in the superficial inguinal glands.

The pressure of a truss will exert its greatest force just where these lymphatic trunks empty into the glands. Where such pressure is continued over a period of years *on both sides* (eliminating the chance of a compensatory circulation) there can be little doubt of this pressure acting from without being the causative factor in producing elephantine changes in the scrotal tissues.

#### REPORT OF A CASE OF HYSTERICAL APHASIA AND PARALYSIS.

BY LE G. KERR, M.D.

Because of the unusual character of the case to be reported, I wish to bring the facts before you, not according to the usual way, but more in the order in which they occurred.

On November 7, 1904, Annie H., aged seven years and ten months, slipped and fell down several steps of a flight of stairs. The force of the fall was almost entirely received upon the back. The following day, the child was unusually quiet, and complained constantly of pain in the back.

November 8th, and twenty-six hours after the injury, awakening from sleep, the child made frantic endeavors to speak, and was unable to do so.

Lifted from the bed, she was found unable to walk, or even stand, although the arms were used freely.

Examination at this time showed complete aphasia, and although the movements of the hands were unimpaired, there was inability to express thoughts in writing. There were several contusions over the lower part of the back, and the body was held rigidly flexed toward the left side. Any attempt to correct this caused great pain. There was a complete paralysis of the left lower limb, and measurements showed an inch

and a half shortening. The lower part of the spine was very painful upon the slightest pressure, or even when the bed was jarred. The whole of the left limb was hyperesthetic. Questioning elucidated the following family history:

Paternal grandfather killed; grandmother died of bronchial asthma; father has been confined for some weeks in an asylum, suffering from an alcoholic insanity. Maternal grandfather died of apoplexy; grandmother, cause unknown, at 61 years. Mother is alive and in perfect health. There are nine other children, all accounted for, in perfect health, with these exceptions: A twelve-year-old boy who is a deaf mute. This followed an abscess from otitis, and was accompanied by a severe meningitis, at the age of four.

As the hour was late and conditions were unfavorable for close observation, no further examination was attempted until the following morning.

At that time, Nov. 9th, the condition remained the same, except that toward early morning, the child had cried out once, the single word, "mama."

The question naturally arose, How much of the condition was due to the injury, and how much was of neurotic origin, independent of the injury?

Against a diagnosis of hysteria stood these facts:

The history of an injury and the presence of several contusions to confirm that history.

Paralysis and aphasia quickly following the injury.

The previous excellent health of the child.

Most important of all, the youth of the patient, hysteria being very rare under ten years.

Against the probability of the injury being wholly responsible was:

The hyperesthesia of the whole limb involved.

That one word uttered during the night; it must be accounted for.

The shortening of the limb, the pain on motion, the pain upon pressure over the spine, the flexed position of the body, could all be accounted for upon either of the premises, an injury or hysteria.

After weighing all the evidence, the decision was made in favor of hysteria, and appropriate treatment instituted. The injury was treated simply as an annoying coincidental difficulty to diagnosis.

Two days later the child spoke several words, then relapsed into its former condition. Dr. Rome saw the case with me several days later, when it had become one of alternating aphasia and paralysis with complete control both of



speech and motion. The condition persisting, I insisted upon the child's removal, which resulted in a progressive improvement.

Since Dec. 1st, there has not been any evidence of a return of the trouble, and the only treatment at present is general tonics, given empirically, I must admit, for I am still unable to discover any organic or functional disturbance which appeals for treatment.

## TRANSACTIONS OF SOCIETIES.

### THE MEDICAL SOCIETY OF THE COUNTY OF KINGS.

STATED MEETING, MARCH 21, 1905.

The President, J. W. FLEMING, M.D., in the Chair.

There were about 100 members present.

The meeting was called to order and the minutes of the previous meeting read and approved.

#### REPORT OF COUNCIL.

The following candidates for membership have been accepted by the Council:

M. M. Apfel, 331 South Fifth Street.

Robert F. Bliss, 383 Park Place.

Frank E. Brown, M. E. Hospital.

Maurice E. Connor, 95 Berry Street.

C. B. Cortright, 1571 Bergen Street.

Roger Durham, M. E. Hospital.

John A. Ferguson, 1187 Gates Avenue.

C. J. Koehler, 313 South Fifth Street.

Abraham Moss, 203 Bedford Avenue.

John H. Reb, 328 Jay Street.

George H. Reichers, 1411 Bushwick Avenue.

Henry Tarbox, 154 Herkimer Street.

#### APPLICATIONS FOR MEMBERSHIP.

The following applications have been received:

William Pfeiffer, 377 McDonough Street, Cornell, 1903.

Proposed by O. A. Gordon.

Seconded by John A. Lee.

Henry Tarbox, 154 Herkimer Street.. Univ. Penn., 1903.

Proposed by N. P. Geis.

Seconded by Membership Committee.

Owen M. Waller, 762 Herkimer Street, Howard Univ., 1903.

Proposed by Membership Committee.

William H. Woglom, 241 McDonough Street, P. & S., 1901.

Proposed by A. M. Judd.

Seconded by Clayton Sharpe.

John L. Crosts, 295 Jefferson Avenue, Albany Med. Coll., 1900.

Proposed by Walter B. Chase.

Seconded by Carroll Chase.

David Gingold, 53 Sumner Avenue, Cornell, 1900.

Proposed by J. M. Clayland.

Seconded by W. C. Wood.

S. J. Altier, 6 Sumner Avenue, Univ. Vermont, 1890.

Proposed by J. W. Fleming.

Seconded by Henry Schelling.

#### ELECTION OF MEMBERS.

The following having been duly proposed and accepted by the Council, were declared, by the President. elected to active membership.

William E. Beardsley, Bellevue, 1878.

Fred. E. Hamlin, N. Y. Univ., 1893.

George D. Homlin, N. Y. Univ., 1883.

Charles G. O'Connor, P. & So., 1899.

Charles L. Stone, Cornell, 1902.

#### DECEASED MEMBER.

The President, on behalf of the Historical Committee, announced the death of Dr. John Joseph Prendergast, member 1885 to 1892, who died March 1, 1905.

#### SCIENTIFIC PROGRAM.

1. PAPER: "A Case of Extensive Carcinoma of the Tongue and Neck, Presenting Points of Special Interest. By Dr. Wm. Seaman Bainbridge.

Discussed by Drs. W. C. Wood, R. S. Fowler, and Bainbridge.

2. PAPER: "The Present Methods and Results in Operative Attacks on the Hypertrophied Prostate." By Dr. Lewis S. Pilcher.

Discussed by Drs. Eugene Fuller, Parker Syms, and G. R. Fowler.

There being no further business before the meeting, it was, on motion, duly carried.

Adjourned.

JOHN A. LEE,

Secretary.

### THE MEDICAL SOCIETY OF THE COUNTY OF KINGS.

STATED MEETING, DECEMBER 20, 1904.

The President, J. E. SHEPPARD, M.D., in the Chair.

Paper: Some forms of Dyspnoea and their Treatment, by Dr. John A. McCorkle.

*Discussion.*

DR. H. A. FAIRBAIRN: I have listened to this paper with a great deal of pleasure, and my remarks will be more a review of some of its points than a discussion.

Dr. McCorkle points out that dyspnoea is a symptom of various disorders. Its origin may be some mechanical obstruction, or it may be in the circulatory or nervous systems, or some toxæmia may be the active cause. The point to dwell on, therefore, is, look for the basic cause and treat it.

An examination of the therapeutic measures he describes will give some idea of the complexity of the subject: strychnia, atropia, aconite, digitalis, nitroglycerine, potassium iodine, arsenic, stimulation of the various emunctories. The paper is a contribution to logical medicine and the lesson it enforces is, do not treat symptoms alone, but attend to the basic cause.

## LONG ISLAND MEDICAL SOCIETY.

JANUARY 3, 1905.

N. T. BEERS, M.D., Editor.

W. A. TOMES, M.D., President, in the Chair.

Report of a case of Epithelioma of the Auditory Canal, Tympanic Cavity and Mastoid Cells. Dr. B. C. Collins.

*Discussion.*

DR. BRAISLIN said the auditory canal, when he saw it, had at the upper and posterior wall, where the mass bulged outward, a peculiar, bluish, edematous appearance; otherwise it might have been considered a mass of granulomata. He was interested in the later developments just reported by Dr. Collins, in that he had heard indirectly from the patient after the case had passed from the doctor's care, that he was rapidly improving and was nearly well. The late report disproved the belief of the patient and confirmed the diagnosis of epithelioma and, consequently, the unfortunate prognosis. Fortunately these cases are rare, especially in subjects so young, but as they are apt to be encountered, early diagnosis and thorough extirpation, as was done here, must still be depended upon to obtain the only chance of recovery.

DR. BUIST said that he thought X-ray would have been of little use in the case, as the epithelioma had reached the bone, and because of the youth of the patient.

Conservatism vs. Radicalism in Medicine, with Report of a Case of Conservatism, by Dr. E. E. Cornwall.

DISCUSSION BY DRS. TOMES AND STIVERS.

Elephantiasis of Scrotum. Dr. W. F. Campbell.

Report of Case of Hysterical Aphasia and Paralysis. Dr. Le G. Kerr.

Remarks on Suppurative Inflammations of the Accessory Cavities of the Nose. Dr. W. C. Braislin.

## MEDICAL SOCIETY OF THE COUNTY OF KINGS.

## SECTION ON PEDIATRICS.

JOHN R. STIVERS, M.D., Editor.

The regular meeting of the section was held on December 28, at 1313 Bedford Avenue, Dr. GEORGE F. LITTLE, the Chairman, presiding.

Drs. Hutchinson, Read, Bartley, Northridge and Edson were appointed a committee to draft resolutions of sympathy on the death of Dr. Henry C. McLean.

DR. BENJ. EDSON read a paper on Dukes' Disease. The paper was discussed by Drs. Kerr, Bartley, Read and Hutchinson.

DR. KERR reported a case of hysterical paralysis with aphasia.

DR. KERR: It is a wise conservatism in medicine which says, "Accept nothing until proven." That is, I believe, the status of the so-called Dukes' Disease. There are irregular types of all of the exanthemata in every epidemic, and some epidemics are themselves irregular. Pleasant, of Baltimore, recently reported a series of thirty-two cases which might have been classed as the Fourth Disease, and in fact were so classed by some. All of these thirty-two were soon after exposed to an epidemic of German measles and in no case was it contracted.

The very phraseology of Dukes' in the *Lancet*, when he compares rubella with the Fourth Disease symptom by symptom, seems to show a desire to prove something. Even then the difference is not marked enough to warrant us in hastily adding another supposed new disease to our list.

DR. GEO. F. LITTLE: A Case of Epidemic Cerebro-spinal Meningitis; treated by Lysol.

## A CASE OF SPINA BIFIDA.

Dr. WM. A. NORTHRIDGE: This case of hydrorrhachis was peculiar in that the sac was almost entirely hidden by the superimposed normal tissues.

A little girl was brought to the Babies' Hospital with the statement that she had been treated in a Manhattan hospital for paralysis of the lower extremities and inflammation of the left knee joint. A plaster cast had been part of the treatment.

The child was 14 months of age, very fat, and in excellent condition as to nutrition. The left knee joint was swollen and painful. The mobility of the lower extremity was so much affected that the child could not walk or make any attempt to stand or sit up. When placed upon her back she cried and turned over on her side. This caused me to examine her spine carefully, when I discovered a tumor  $7\frac{1}{2}$  c.m. in diameter, quite flat and with a wide base. It was placed in the lumbo-sacral region, well under the skin and adipose tissues, but not adherent to them. It caused a slight prominence, felt like a lipoma, but more elastic.

I aspirated and removed 14 c.c. of colorless fluid which Dr. Belcher examined and declared sterile and to be undoubtedly cerebro-spinal fluid. The withdrawal was followed by the happiest results. The child could now lie upon her back without pain; she soon learned to stand and move her legs freely, and the symptoms around the knee joint disappeared. She is now awaiting recovery from an intercurrent acute disease, when more of the fluid will be withdrawn. I shall report the final results later on.

## THE BROOKLYN SURGICAL SOCIETY.

REGULAR MEETING, JANUARY 5, 1905.

The President, W. B. BRINSMADE, M.D., in the Chair.

## RUPTURE OF INTESTINE BY TAXIS.

Dr. T. B. SPENCE said that he reported this case because of its extreme rarity. He had never heard of just such a case. A butcher, 40 years of age, had a history of having had a hernia for twenty years. He had worn a truss all that time, and had the hernia pretty well under control. Early last year, one night about 9:30, while lifting some heavy pieces of meat, the hernia slipped

out from beneath the truss. He immediately took the truss off and attempted to put the hernia back and found he could do so, but with more difficulty than usual. Immediately afterward he was seized with pretty severe abdominal pain, and suffered quite a good deal from shock. He was carried home by some of his companions. A physician was called who recommended him to go to the hospital.

At 12:30 he came to the Methodist Episcopal Hospital. He was found suffering extreme pain, although he had had pretty big doses of morphine. His abdomen was hard and tender, although the tenderness decreased greatly after the administration of the morphine. It seemed advisable to prepare him for immediate operation. The exact condition was problematical. It looked a good deal like a case of partially reduced hernia. However, an incision showed that the sac was empty and that the internal ring was free, but coming out from it was some turbid serum. Dr. Spence put his finger through the internal ring, but could find nothing out of the way, and then made an incision in the abdomen along the side of the right rectus, and discovered a good deal of turbid fluid in the abdomen. A portion of the gut, a foot long, was found to be congested, and at the middle of this piece of small gut was a rupture about three-fourths of an inch long, longitudinal with the gut, undoubtedly made by the man's own attempts at taxis. This was closed with Lembert sutures, the pelvis was washed out and a drainage tube left running down to the pelvis, and the hernia wound was closed as for radical cure.

There was some difficulty the first three days in moving the bowels and vomiting was present. After that the patient did well until the end of the second week. He then developed an attack of pain over the region of the liver; and at that time it was learned that he had had similar attacks before. His temperature rose, he became very tender and a mass could be felt in the region of the gall bladder. An operation was done, the gall bladder opened and four ounces of pus was found in it. There were no gall stones. There was a lot of necrotic material. It seemed as though the whole mucous membrane had sloughed. That was removed and a drain was put in. At the end of three weeks the wound had healed and he has been well since.

Dr. Spence expressed his belief that it was very unusual for a patient with a hernia to rupture a piece of normal gut by his own attempts at taxis.

### Discussion.

DR. PAUL M. PILCHER, referring to Dr. Spence's case, reported one somewhat similar but without rupture. His patient, a man 50 years of age, had never suffered from a hernia that he knew of. During the night he was seized with an attack of cardiac failure, with marked embarrassment of respiration. The next day he consulted a physician about noon, complaining of pain in the left inguinal region. Upon examination the physician found an oblique inguinal hernia, size of a hen's egg. Attempts at reduction by taxis were unsuccessful, and patient was sent to the hospital. Dr. Pilcher, Jr., saw him at six o'clock after the House Surgeon had tried taxis. The hernial protrusion was very tender and showed symptoms of strangulation. The incarceration or strangulation had been of so short duration that Dr. Pilcher decided to try taxis, and by manipulation in a few moments the intestine dropped back into the abdominal cavity. The man was very much relieved. He had a double heart murmur and his cardiac action was much embarrassed. His respirations and pulse were rapid.

During the night the patient began to feel badly again. In the morning the speaker found him vomiting. All attempts to move the bowels were futile. There did not seem to be any distention, nor any localized point of tenderness, and it was decided to wait for a while before doing anything. The vomiting continued, and at three in the afternoon it became fecal. Dr. Spence saw the case and advised waiting longer.

Dr. Pilcher, Jr., saw him again in the evening and he was still vomiting. At midnight he was vomiting large amounts of fecal material, and immediate operation was ordered. On opening the abdomen the intestines were explored from one end to the other, but no perforation or strangulation was found, except at one point, which showed signs of previous compression, and a small piece of gut, about two inches, between these points was congested and the marks of strangulation were still evident. There was also a second point some distance from that at which the gut had been compressed, but there was no stricture at all. Two or three ounces of magnesium sulphate solution were then injected into the bowel and the opening closed with a purse-string suture. The patient was returned to the ward, and in the course of two or three hours he had a free movement of the bowels. The tenderness and rigidity of the abdomen lessened very markedly, and in the morning there was no dis-

tention. The internal ring was closed from the inside.

The next night the patient developed an œdema of the lungs, but that was controlled by infusion and stimulants. He got along well for a few days. His bowels moved regularly, but on the fourth or fifth day he died from cardiac failure.

The case was interesting, he said, because of the injury to the gut which followed a short strangulation, and although there was no reduction *en masse* of the hernia and no constriction, still the bowels failed to move. In this case as in the cases previously reported by the speaker, the intestinal paresis was overcome by injecting a solution of magnesium sulphate directly into the intestinal canal.

DR. W. C. WOOD said that one day this autumn a laboring man was coming from Newark to Brooklyn when an old hernia bothered him, and he fixed himself while on the train. He was seized with a great deal of pain while on the ferry boat, and was taken by ambulance to the Brooklyn Hospital. There he appeared with a well-marked swelling of the groin that was supposed to be a strangulated hernia in the canal, not having reached the scrotum. There was no definite attempt at taxis made, because the parts were extremely tender.

Within two hours the abdomen was opened, expecting to find a strangulated hernia. The speaker found a sac full of fecal material, and on continuing the opening up through the ring came across a portion of the large intestine, evidently previously strangulated with a rupture in it that would about admit the little finger. In his judgment here was a case where taxis by the patient had ruptured the intestine. He could see no other explanation for the case now, and could see no other explanation at the time.

Within two weeks following the foregoing Dr. Wood saw a case in an elderly man, who had reduced his own hernia *en masse*, with strangulation remaining at the neck of the sac; and just recently he saw one of those interesting cases of interstitial hernia, often spoken of as properitoneal hernia, where the testicle seemed to act as a ball valve, causing interference with the reduction of the hernia, and to be the obstructing cause of the strangulation.

### FRACTURED PATELLA.

DR. R. S. FOWLER reported a case of fracture of the patella. The operation performed five weeks ago consisted of suturing the capsule with kangaroo tendon, and the placing of a few su-

tures on each side of the patella. There was about one and a half inches of separation at the time of operation, and approximation was easily effected and complete. The interesting point in the case was the ability of the man to get around so soon after an operation of that kind. He has not got a great deal of motion, but, of course, that will increase.

#### *Discussion.*

DR. W. C. WOOD inquired as to how many gentlemen had been doing operations for these fractures under local anæsthesia. He had done some and found it quite satisfactory. Schleich's mixture in the skin was used. It is advantageous, especially in elderly people, and because it does away with all struggling coming out of the anæsthesia, and makes the operation a minor one. Dr. Wood thought the method of suturing the capsule was secure enough to approximate the fragments, provided there was no traction afterward. To him the point of operation is to remove the fibrous tissue between the broken ends. It requires little traction to approximate and keep together the fragments if the bony surfaces are clear.

DR. M. FIGUEIRA objected to calling this a minor operation when, he said, a failure might mean the loss of the patient's life. He also objected to the statement that the fracture will unite as well if the fragments were not approximated close together. If approximation is not necessary he thought the operation useless, as the object of it is to bring together the fragments so as to get bony union. If this was not secured he could not see the sense of operating at all.

DR. W. C. WOOD, replying, said he regretted he did not make himself clear. The older operation for fractured patella that consisted of clearing off the surfaces of the bone and wiring it was an operation of marked strength. Unfortunately, too often it ended with a certain amount of stiffness of the knee. The first sixteen cases that were done in that way were performed, he believed, in Bellevue Hospital at the time he was an interne there. The cases were shown at the Academy of Medicine. Fourteen of these patients, at times varying after the operation, were not able to go up stairs with that leg first. In other words, the amount of stiffness following the wiring operation as then done seemed to fail in producing sufficiently early pliability of the joint.

The operation, as done by Dr. Fowler in this case, he believed to be the operation of choice. It consists in clearing off most thoroughly the

tissue that stretches between and interferes with the bony apposition, and then these bones are held together by chromic cat-gut sutures inserted, not through the bone, but through the capsule over the bone. This produces as good apposition as the other operation, but it does it without furnishing an immediate strong bond of union between the two fragments. It can be broken up by violent struggling, such as some patients have when coming out of anesthetics. In that respect he referred to it as a minor operation, as compared to the other, and he also said he did not think the term was rightly applied, as any patella operation, in view of the possibilities of sepsis, should be looked at as a serious procedure.

#### PNEUMOCOCCUS PERITONITIS.

DR. J. M. DOWNEY reported the case of a male, aged 20, who was taken with a chill, pain on the left side of the thorax, temperature  $104^{\circ}$ , pulse 130 and respirations 35. The physical signs showed he had a pneumonia on the right side, which cleared up by crisis on the seventh day. On the eighth day he complained of severe pain on the right side of his chest, which was accompanied by a rapid rise in temperature and pulse. On the tenth day the physical signs of fluid in the chest were obtained and two quarts of a sero-purulent fluid was again removed. Two days later aspiration was again performed, and five pints of a purulent fluid drawn off, which gave the patient some relief. The temperature varied from  $102^{\circ}$  to  $104^{\circ}$ , pulse 130 to 150 for the following three days. Sixteen days after his initial chill, the speaker removed a portion of the eighth rib on the right side, from which operation the patient rallied very well. That afternoon his temperature was  $100^{\circ}$ , pulse 115, respirations 32. His condition continued to improve until 72 hours after the operation, when his temperature rose to  $106^{\circ}$ , pulse 180, respirations 60, his general condition very weak.

The patient improved under cold packs, stimulation hypodermatically and per rectum, so that in a few hours his temperature was  $102.5^{\circ}$ , pulse 136, respirations 36. A few hours later it was noticed that his abdomen was enlarged, tender, painful and tympanitic all over. The distention gradually increased until it extended from the pubis to the ensiform, the temperature and pulse gradually rose, vomiting set in which was persistent and could not be controlled. The bowels failed to respond to medication by mouth or enemata, not even gas being passed. The patient gradually grew worse and died six days after

operation. Dr. Downey expressed his belief that this was a case of peritonitis due to the pneumococcus.

#### POST-OPERATIVE ETHER PNEUMONIA.

DR. J. M. DOWNEY reported the case of a lady, 28 years old, who was operated on by him for gangrenous appendicitis. Two days later she was taken with a chill, wild delirium, cyanosis and dyspnoea, which persisted for four days. That which he would like to call particular attention to was the congested and oedematous condition of the pharynx and uvula, which lasted forty-eight hours, during which time respiration was very much labored. She also had a great many rales due to congestion over both lungs, which condition was promptly improved by the administration of atropia, gr. 1-50 every two hours hypodermatically, and the external application of mustard and dry cups.

When this acute congestion disappeared the signs of a broncho-pneumonia became apparent, and the case ran the usual course of this disease, the patient making an uneventful recovery.

The speaker's reasons for reporting this case were the marked congestion and oedema of the pharynx and uvula, the prompt relief of the congestion by the atropia, and the inability of morphine, chloral and bromides to control the delirium, which existed before the administration of the atropia and which yielded promptly to a few doses of ergotole hypodermatically.

#### THYROIDECTOMY.

DR. M. FIGUEIRA presented a tumor of the thyroid gland which he had removed. The tumor was exsected because of its size; it projected beyond the chin, and was annoying to the patient on account of its prominence. It caused no pressure symptoms.

There was nothing noteworthy about the operation, except that as the tumor was so large the lateral lobes could not be dislocated, and the tumor was separated from the front of the trachea and a ligature passed, cutting off about one-third of the left lobe. The tumor was turned over, and the ligation of the arteries and the rest of the dissection was from behind.

#### PERFORATION OF THE APPENDIX PREVENTED BY OMENTAL ADHESIONS.

DR. M. FIGUEIRA presented a specimen from a case of appendicitis he had operated on a few days before. The specimen showed very beautifully the protection given by the omentum in preventing perforation. The case presented the

usual symptoms of appendicitis of four days' duration, and a marked tumor in the right inguinal region. After opening the abdomen and delivering the tumor, which was free in the abdominal cavity, it was found attached by a pedicle as it were, fastened by the root of the appendix, the rest of it being completely covered by a fold of omentum. The specimen showed this very clearly.

#### DEPRESSED FRACTURE OF SKULL DUE TO PISTOL SHOT.

DR. M. FIGUEIRA showed some pieces of bone, which formed part of the squamous portion of the temporal bone on the right side of a man who attempted suicide by shooting himself with a 32 calibre revolver. He did not lose consciousness; indeed after shooting himself he left his room, came into the hall and called the neighbors.

When the ambulance surgeon found him he was sitting in a chair, and did not present any symptoms showing an affection of the brain. He came into the hospital, and the wound was antiseptically dressed. He was kept under observation for a week. At the end of that time he was able to sit up; the wound had pretty nearly closed up. All he complained of was slight dizziness and a little pain on the back of the neck. A skiagraph of the side of his head was taken, showing distinctly the position of the ball. Under these circumstances Dr. Figueira deemed it proper to cut down to see if he could not extract the ball. To his astonishment he found a depression of the skull behind the ear about half inch above the level of the external auditory meatus. The depression was about half inch deep, pressing on the middle of the lobe of the brain. The pieces of bone were removed by elevation. The dura matter was not wounded.

#### EPITHELIOMA OF THE TONGUE.

DR. M. FIGUEIRA reported a case of cancer of the tongue in a woman 29 years old. The growth was the size of a ten cent piece and on the side of the tongue. It had been treated at first as a syphilitic sore and later as tuberculosis. Under the microscope it was found to be epitheliomatous. There was some enlargement of the glands under the jaw and a few in the course of the vessels. The operation was a combination of Dawbarn's operation for ligature and excision of the external carotid, with Kocher's for removal of posterior part of the tongue.

The incision was from the tip of the mastoid to the cricoid cartilage, and through this the external carotid was ligated, followed up and

the branches tied. Instead of injecting with paraffine, as Dawbarn does, he used torsion at the terminal branches. In the course of the dissection he removed all the enlarged glands. Another incision was carried from the angle of the jaw to the symphysis and a flap dissected down, and all the tissues under the jaw and involved glands removed. The mouth was opened, the tongue slit and half of it removed enclosing the tumor and a large margin from the sound tissues. The ligated artery made the operation almost bloodless. It is a procedure that fulfills the indications for an operation of this kind. There is no doubt that in the operations for cancer, the main object is thoroughness and completeness in removing all the tissues possibly affected. These cases the speaker said he subjects to X-ray treatment after they heal.

## THE BROOKLYN PATHOLOGICAL SOCIETY.

HENRY G. WEBSTER, Editor.

454TH REGULAR MEETING, DECEMBER 8, 1904.

The Vice-President, J. R. TAYLOR, M.D., in the Chair.

Epithelioma of the Face, an Unusual Case. History and Patient.

DR. G. L. BUIST: The history of this case is as follows:

T. V., male, 17 years of age, Italian, referred by Dr. S. Sherwell. Clinical Diagnosis, Epithelioma.

Family History: Negative. Father and mother living. Mother has had no miscarriages. Five living brothers and sisters.

Personal History: Three years ago patient noticed a small scab just below the margin of the left eyelid. After several operations, followed by recurrence, antisyphilitic treatment was instituted. No permanent improvement. Two years after the inception of the growth the patient had lost the sight of both eyes. Roentgen Ray treatment seemed for a while to be beneficial, but under persistent treatment the growth has rapidly developed, while at the present time there is an involvement of at least one-third of the face. The general condition of the patient is excellent. There has been no loss of weight.

Pathological Examination: Epithelioma, many cells showing a karyokinetic appearance.

Remarks: Epithelioma in the young is unusual. When it does occur its progress is very rapid and it is difficult to check it.

Presentation of Specimen: Normal pregnant uterus.

DR. H. G. WEBSTER presented a specimen of a normal pregnant uterus. The woman from whom the uterus was taken died of an acute nephritis somewhere between the fourth and fifth month of pregnancy, and at the autopsy the specimen presented so beautifully, that he concluded it would be interesting to have it seen. The position of the foetus, the attachment of the placenta and the appearance of the membranes could be readily appreciated.

Presentation of Specimen: Ectopic Gestation. Dr. J. P. Glynn.

PAPER: OBSTRUCTIVE HYPERTROPHY AND ATROPHY OF THE PROSTATE GLAND.

DR. PAUL MONROE PILCHER.

Dr. PILCHER's paper dealt with the pathology, etiology, and results of treatment in Prostatic Obstructions. It presented the results of a study of 20 cases operated upon in the clinic of Dr. L. S. Pilcher, at the Methodist Episcopal Hospital. The average age of the patients was 68 years. Two died. The functional result was perfect in 15 cases, fair in 2 cases, and unimproved in 1 case.

His conclusions were as follows:

1. Pathologically there are 3 types of prostates causing urinary obstructions:

a. The large, soft, glandular type.

b. The hard, small, contracted, fibro-muscular type.

c. The mixed type.

2. Infection does not influence the variety of the pathological change.

3. The contracted form of prostate is not a secondary stage of the large, soft type of hypertrophied prostate, but is distinct from it.

4. In some case of hypertrophy of the prostate there is present a true muscular hypertrophy.

5. In some of the atrophic cases the glandular elements are relatively diminished.

6. Gonorrhœa is not an important etiological factor in the production of this disease, and there is not necessity for assuming it to be.

7. In the 8 cases where we have ascertained the age to which sexual intercourse was continued, the average was 67 years.

8. The pathological findings are the result of senile degenerative changes in a functionally active gland. The basis of the change being a



chronic productive formation of new connective tissue.

9. Perineal prostatectomy offers a safe means of removing the obstruction in all types of the disease, and is productive of satisfactory results.

10. Superpubic enucleation after the method of Freyer of London is equally to be recommended in the cases of large glandular hypertrophy of the prostate.

DR. FERD. C. VALENTINE: It is not often that one gets what one comes for. I came here for a post-graduate course this evening, and my former fellow-student in Germany has given it to me. The thoroughness with which he has presented the matter, not only from the viewpoint of the pathologist, but also of the experienced operator, makes his paper more valuable. The close analysis with which he has presented his matter again emphasizes its value. For my part I think an injustice is done the author to form an opinion of so valuable a paper without the opportunity of studying it when it is published.

Ordinarily the best appreciation that can be shown an author of his work is severe criticism, and throughout the whole presentation of the subject I sought for points in which I might give him an opportunity to further develop this sketch (for so I must call it notwithstanding its profundity), so that in closing the discussion we might get some more of the author's instruction.

In this I was disappointed, because I could not find a single thing in which my own thoughts were not verified, save and except the original pathological researches, of which I am sorry to say I am not capable of offering criticism. Nor is it given to every one to be capable of doing that class of work; it requires special ability, aside from instruction.

I would like for the sake of emphasis to add some of my own views to those of the author. If I understood him correctly, he acknowledges the existence of a second capsule of the prostate. It was on this point that Freyer had his greatest contentions, and he asked me whether there was an American scientist who acknowledged the existence of that capsule of the prostate, which Thompson had shown thirty years ago. I was compelled to confess ignorance. Freyer with his 118 prostatectomies up to August of this year relies upon that capsule in enabling him to enucleate a large number of prostates in their entirety, some exceedingly large ones. In doing that he teaches another lesson, viz.: that the torn urethra, which we have been regarding as a bugaboo, need occasion no anxiety if injured, be-

cause he tears the urethra with his finger when he shells out the prostate.

I am very glad indeed to have learned this evening, that there is an American author who agrees with Thompson in the existence of that capsule. Another point which the author brought forward was of supreme importance. He presented of his 20 cases, 16 without a history of gonorrhea, and 4 with. In 10 of these cases the author positively eliminated gonorrhea, and 6 he was doubtful about. To a man who has presented a paper like this, it is needless to ask whether he went searchingly into the question. Perhaps you will denounce me as an optimist when I reach a conclusion of this sort. I am convinced if anybody could have ascertained whether the patient had gonorrhea, Dr. Pilcher would have done it. First, he has proven it by the character of his work. Second, is it not a fact that those of us who are approaching the sear and yellow, know one thing, that when a patient comes to us in a condition demanding operative interference *gonorrhea mendax* has disappeared; he tells the truth, he wants to help you to save his life; his time for lying is passed. Therefore, when Dr. Pilcher says 16 of his cases have not had gonorrhea and 4 did, I fully agree with him that the cause was not gonorrhea.

From a not small amount of observation of prostatic cases, I must say to you this, that the worst sufferers that I have seen from prostatism were men who had never cohabited with any one but their wives. You may at once say, if you are critical, that this is rather an argument in favor of immorality. It is not so when we consider the percentage of prostates that enlarge, that become pathological impediments; then we must become more and more optimists and look for higher morality among men. Who are those of our patients with gonorrhea? Are they the old rounders? There are few of the latter who go to genito-urinary specialists. No it is the casual transgressor from the narrow path who gets into trouble. I will cite one case alone, a man who at 62 acquired his first gonorrhea. I had known of his profligacy. I knew he was married at 23; that subsequent to his marriage he kept three mistresses; and he came to confess, but not to boast, when he said that he had on an average cohabited twice in 24 hours throughout his life from the twenty-third to the sixty-second year. This is no fairy tale regarding infection. He had exposed himself in every possible manner, and had never acquired gonorrhea until 62. That man is alive to-day in his 70th year, and

has not the slightest prostatic disturbance. Of course, this one case proves nothing, but it is one of a large number. To go back to the original question, the one of frequency of gonorrhea as a causative factor in prostatism. I do not believe it is.

A word regarding the relief of prostatism. I confess myself a student and intense admirer of the master Guyon, who said, "*Le prostatisme ce n'est pas une maladie, c'est une infirmité.*" Of course, he means prostatism where there is no constitutional disturbance, no kidney disturbance principally; I am not speaking of the direct inconvenience from the enlargement of the prostate. I believe with him that it is an error as soon as a man manifests the first evidences of enlarged prostate, to remove that prostate. I believe that safety lies in introducing him to catheter life. This seems a retrograde assertion in the present furore for shelling out prostates, but I rest upon some specimens which Dr. Pilcher saw in Berlin, a number in Posner's collection and a number in Waldeyer's collection, in which he will recollect it was asserted that the depression which enabled the patient to urinate was in many instances due to the use of the catheter. Whether the catheter by friction or pressure produced that, it seems to me is questionable. At all events, it would seem to be necessary, particularly as many of us are oftentimes away from the regions where we could have the skilled operator, that we make a particular study of aseptic catheterism.

If we get men who are educated and intelligent, they can be taught what aseptic catheterism means. To aid us in that particular I presented before the Genito-Urinary Section of the New York Academy of Medicine a little device to assist these patients in preventing direct infection in the use of the catheter. This little device I presented at the American Medical Association, and I ask the privilege of contributing it towards the author's paper. It is nothing but what physicians would be justified in calling a pocket edition of the irrigator which bears my name. One of the essential features is that its sterilization can be accomplished by simply throwing it into a pot of boiling water. It is not possible in preliminary washing of the urethra with this nozzle to injure any part thereof. Again the conical shaped nozzle is such that it will fit any sized catheter, and, therefore, the preliminary cleansing of the urethra and subsequent washing of the bladder when necessary can be rendered easy with this little device.

When the first disturbances of direct infection are present, when, perhaps, pus corpuscles appear more than they should in the urine, then it is serious time to consider operation. The selection of the operation must necessarily depend upon the individual. Dr. Pilcher has told of his method. Very well. A man expert in one method—but before going on to methods I want to submit one thing, that it must be a subject of pride to every operator who can present 75% of successes in prostatectomies. The author has 15 out of 20 were what he calls absolute cures. I ask whether any one in reporting his cases has been so strict and unmerciful with himself as the author has been? What does he call successes? He mentions also four other cases where there was some trouble, but the patients are alive and comfortable.

To resume. At the time when the Bottini operation was resuscitated, when Freudenhoff took it up, when it was carried into our country, and we saw a great many that had been reported as cured, we hoped for better things. We saw the cases and treated them after they had been cured by the Bottini method.

There is one method, however, which is unknown in progressive America, where we are presumed to be in advance of the world. Were my prostate to be removed, it would not be to my mind the selection of the surgeon who follows any one of various technics. I would rather be in the hands of a man who has done and is successful with his own technic, whatever that may be. He would then use judgment in selecting the right method which would be employed in my case. Therefore I do not propose to criticise that, but I do criticise the American profession for overlooking one operation of reaching the prostate through the perineum by means of the cautery. It consists of searing through the perineum into the prostate through a very large tube two deep incisions, and with the finger or instrument breaking the band which is the impediment to the overflow of urine. After you have done this you have reduced the level of your urinary bed to the level of the urethra. It is an operation that is very much less extensive than complete prostatectomy, and it perhaps panders to prejudice and the patient's desire to retain part of his prostate. Be that as it may, enucleation does not impair sexual activity, as evidenced by the author's finding that the average continuation of virility in his cases was 67 years. For the *potentia procreandi* that would perhaps be hardly necessary or desirable.

Regarding this operation, which was never imported into America. It is not a new operation at all. It was first published some 16 years ago by William N. Wishead of Indianapolis, and has been since successfully followed by him with a percentage of perfect results equal, if not superior, to those of prostatectomy.

DR. J. M. VAN COTT: The prostate gland develops from two layers of cells lining the urinary tube of the embryo from about the fourth to the fifth month. This gland was studied as far back as 1874 by Powell and by Langerhans, who first wrote a really able brochure upon the subject, and he found there are two distinct periods in the development of the gland after the post embryonal state. He went into the details of the structural elements of the gland. He shows that particularly in the cells of the tubules changes are present after puberty, which render the pathological elements totally different from the condition before puberty. He analyzes the structural parts which surround the gland. He agrees with Kolicker in his later article on the subject, that there is no *membrana propria* in the strictest sense of the word. All the other authors I have been able to find agree with Dr. Walker that the most of the tissue present in the gland is elastic and fibrous connective tissue.

Following him came a man by the name of Stelling, who in 1884 or 1888, in Berlin, took up this question of the structure of the prostate and its relation to the varying periods of life, and he showed or concluded practically the same thing, and went further to state and tried to prove by his demonstrations that this was essentially one of the sexual glands, in other words, that it is not merely a gland which secretes and keeps on secreting through life, but that there must be some definite and positive connection between the sexual life of the individual and the structure of the gland itself. He quotes some Italian author who has recorded the case of a number of eunuchs who had been studied by this Italian medical gentleman, and it was shown by him that these eunuchs having been supplied to certain ladies who desired their pleasure without the danger of pregnancy, in the act of coitus there was an ejaculation from the gland, which on analysis proved to be that of the prostate gland, so that unquestionably there is an admixture of this secretion of the prostate gland with the other sexual organs in the act of coitus.

In my judgment, Nature makes no mistakes, and it must be so if all this be true as to definite structure, as to functional activity, as to the fact

that activity is at the time or after the time when the individual becomes virile, then there must be close association here of these elements along definite, natural lines. The point I want to make, and my reason for believing with Dr. Pilcher, that this is not essentially a gonorrheal condition is this: there is no organ in the body which is not open to certain fundamental principles in regard to the dangers of invasion of disease. It would take too long to go fully into this, and yet we all know that any organ which has a known functional activity is prone to changes in its structure, either parenchymatous, interstitial, or a combination of the two, and that these changes are the direct result of the loss of environment of those things which are constantly in our presence and will constantly produce changes which we denominate as disease.

Another interesting fact in connection with this is, these changes in the gland are not always the same. If gonorrhea were the cause usually of prostatic lesions, then we would expect to find the changes relatively the same, but here we find not only a variation in the number of lobes affected, but a variation in the proportion of the elements of the gland affected, in one case we have connective tissue, in another the muscular elements in excess, and in another we have cystic degenerations, which are due to lesions in the tubules themselves identical with the changes occurring in the kidney or other organs of the body, in which you have this admixture of parenchymatous and interstitial elements and high functional activity, so that my vote would go for the correctness of the theory, that gonorrhea, while it may be present in some cases, is a secondary condition superinduced on another condition, which had no relation as a causative factor with the gonococcus.

As to a capsule of the organ that has been disputed, and the reason, it seems to me, is this: What we call a capsule in the prostate is really nothing but an outer layer of tissues composing the prostate mass, a fibrous tissue which in these prostates is subject to pressure and assumes the relation of a capsule because the tissues surrounding the gland are somewhat weakened and may be easily separated from the rest of the tissue which is normal.

DR. L. S. PILCHER: There are only a few points in connection with this very elaborate question which I would like to speak of. It seems to me that if the paper of the evening has any merit, it is particularly in the fact that it has brought out very clearly the two kinds of path-

ological changes which take place in the prostate gland, and which may lead to obstructive symptoms.

Up to the point when obstructive symptoms arise, a large prostate is, as Guyon has said, "An infirmity and not a disease," but when it does produce obstructive symptoms, then it becomes a disease and ceases to be an infirmity.

There are two very distinct conditions, as has been well brought out in the paper, which the prostate may present, and which may lead us to the disease, so that when we speak of prostatic obstruction, it does not give us any clue to the real disease which is present. It may be of the one class or it may be of the other, and from the point of the future treatment to which it shall be subjected the differentiation of these two conditions becomes one of great importance, because the one is very readily overcome by certain classes of manipulation, and the prognosis from the beginning is excellent, the general condition of the patient being reasonably good, while the other case is one that is overcome with difficulty, is attended with other degenerative changes in the urinary apparatus, and is likely to leave behind it an incompleteness of cure, which is disagreeable to the patient, and disappointing to the surgeon. The distinction then of these two different pathological conditions, which may lead to urinary obstruction, is one of importance not only pathologically but practically.

The etiology of the disease is one which is not as certainly free from being satisfactorily settled. As has been well brought out by the reader of the paper most unsatisfactory views with regard to it are presented by those who have given it the most extensive research. The author of the paper has come to a conclusion, which seems to be concurred in by the eminent gentlemen who have already joined in the discussion, that the inflammatory changes due to gonorrheal infection are not the almost invariable primary cause of the disturbance. In that he differs from those who have made up to the present time the most extended and elaborate studies of the question. He has given good reasons for it. I believe that with further study of the question the position which he has taken will become more and more substantiated, and that the role which the gonorrheal organism plays in the production of prostatic changes which lead to urinary obstruction will be acknowledged would have been very much less than has been supposed in recent years.

The truth of the matter has been very well brought out by the last speaker. With very much

of reflection upon the matter, which for many years has been forced upon myself as one who has to deal with these things continually, with the opportunities for a wider observation and experience in this particular field, it has seemed to me that if we would accept the view that these changes in the prostate were of that class of general alterations in structure of hypertrophy of some tissue and of degeneration of other tissue, and all those changes which are due secondarily to interference with the functions of the different elements of the gland, that in them we shall find sufficient explanation of the unfortunate changes, which in a certain proportion of men as they reach old age do develop, and that according to the particular susceptibility of the tissue of the individual patient, coupled with the bacterial sources of irritation or of congestion, which have been present in the life and function of this part of the economy, we shall find the explanation of the ultimate disease.

I shall speak of a point already mentioned as to the function of the prostate gland, as illustrated by some of our operative experiences. In two cases which were subjected to double orchidectomy by myself over ten years ago, in which there were very large prostates present, there was no subsequent shrinking of the prostate and there was a continuance of sexual activity. In other words, the prostatic function was as regards the general economy, as regards the sexual power and proclivities, such that the individual was able and did take upon himself the work which before that had been largely done by the testes themselves. That is simply the clinical fact. Of course, the secretion of the prostate does not give the procreative power present before these were removed, but in these cases the individuals have been able to maintain the sexual appetite and the sexual power, a very interesting observation, it seems to me; and possibly if attention is drawn to it there may come from it some further addition to our knowledge as to the physiological function of the prostate gland. Certainly it tends to increase our appreciation of it as one of the sexual glands of the body rather than as one that was to simply dilute the spermatic fluid, which has been the function that has been more largely attributed to it, I believe; to dilute and contribute an environment more stimulating and sustaining to the vitality of the spermatazoa supplied from the testes, while from the gland at the base of the bladder was to come that which was to give it bulk and proper environment while reaching its destination.

DR. A. T. BRISTOW: I would like to say a word with regard to the statement of Dr. Pilcher with regard to the function of the prostate. It is not often I dare to disagree with Dr. Pilcher, but I would like to call his attention to the fact that the lumbar cord presides over the sexual function and not the prostate gland.

Dr. Valentine has just told me something that I did not know before, and that is that the spermatazooids are motionless until they pass through the spermatic fluid. It has never before been suggested to me that the prostate gland was responsible in any degree for either sexual appetite or power, that residing, I have always supposed, in the lumbar cord, and the mere fact that patients preserve the ability and desire for coitus after an orchidectomy is not any proof that the prostate had anything to do with it, because that is something which we observe in animals castrated late.

DR. J. E. BLAKE: The inclination to argue *post hoc ergo propter hoc* is not confined to any branch; it is also found in the medical profession, and because some of our German authorities argue that because they find so many cases where chronic gonorrhea exists or has existed, therefore it must be a reason for the production of this disease, this reasoning will not stand.

When I was in Berlin I was intimately associated for some months with a gentleman who was an assistant in one of the largest genito-urinary clinics there. He told me from the number of cases treated in these clinics, in his own and various others, and cases which treated themselves and were treated by the medical students, that it was estimated that all the students of Berlin had gonorrhea on an average of one and a half times during their course of study in the city. At any rate, while there might be a few who did not have it at all, at the same time it is evident that the vast majority of men in Berlin in the course of their lifetime had gonorrhea at least once, and if they all had it, the mere fact that they found that history argues nothing as to the causation of this disease.

DR. P. M. PILCHER: One of the latest and best works upon the function of the prostate is a study by Walker, which has been published in the Johns Hopkins Bulletin, I believe, but there are many interesting facts that have not been brought out.

I thank the gentlemen for the kind criticism and the thorough discussion of the paper, and I have profited a great deal from their discussion.

## THE BROOKLYN GYNECOLOGICAL SOCIETY.

STATED MEETING, FEBRUARY 3, 1905.

The Vice-President, J. O. POLAK, M.D., in the Chair.

### REPORT OF CASE: RUPTURED OVARIAN CYST.

DR. J. O. POLAK presented two specimens coming under one class—that of intra-abdominal rupture of ovarian cystoma.

In the first specimen the rupture took place some considerable time before the patient came into the hospital, that is, nearly two weeks before, but was passed over by the attending physician as simply a fainting attack with some little development of peritonitis attending it. The Doctor gave the history of the case as follows:

Patient 50 years old, married, and admitted to the hospital on January 12. Family history negative. Menstruation normal. She has had no children; once was supposed to be pregnant six years ago. Married at the age of 40.

Six years ago at the time of the supposed pregnancy the abdomen enlarged out of proportion to normal pregnancy. She came under the care of Dr. Boldt. He made a diagnosis of ovarian cyst complicating pregnancy and operated at the Post Graduate Hospital six years ago. Dr. Boldt, in reply to Dr. Polak's telephone inquiry, reported that he thought (without referring to the records) that he had removed an ovarian cyst and left a part of one ovary. The operation was entirely successful, and she went along very well for five or six years.

Her present illness began five months ago. The growth was gradual until within six weeks of the time of admission to the hospital. During the past six weeks the enlargement has been very rapid; pain began in the right side and then appeared in the left, was constant, and much worse at night. She suffered a great deal from dyspnea and from cardiac symptoms, gradual loss of weight and typical facies of ovarian cystoma.

Dr. Polak saw the case with Dr. Slavin about January 1st, and at that time the woman was lying in bed with this immense tumor distending the abdomen to its extreme capacity with a cyanotic face and a pulse that was small. She had considerable evidences of pressure. This condition of affairs went on and operation was advised.

She was operated on January 14th, and the

tumor which he presented was removed. The Doctor said that the interesting point of the case was, that in the interval between January 1 and January 14, she was suddenly seized with severe pain, some shock, and the attending physician had to use stimulants to keep her heart up. That was the only sign of rupture. At the time of operation, Dr. Polak opened into the abdomen very carefully and found the abdomen filled with colloid material. There were forty pounds of it, which was just lifted out with the two hands as a scoop from every corner of the abdomen, evidently from the rupture of one of the locules of this cyst. The diagnosis in this case was a thin walled cyst, and it was certainly confirmed by the operation. The flanks were not bulky as you would expect with free fluid in the abdomen. After this material was ladled out of the abdomen the cyst was tied off. The uterus was found atrophied. Her left ovary had previously been removed by Dr. Boldt, the stump was found and there was a small nodule on it the size of a hazel nut. The patient made an uninterrupted recovery. She had considerable trouble the first few days because of vomiting, but under lavage and rectal irrigation the case cleared up.

REPORT OF CASE: RUPTURED OVARIAN CYST COMPLICATING PREGNANCY.

DR. J. O. POLAK referred to this case as one of more interest than the preceding. The patient, a Swiss woman, — years of age, had never been in very good health. Her family history was practically negative save for the mother dying of tuberculosis at 59. She menstruated at 14, 7 days' duration, 28-day type, always regular, except that she had not menstruated for six months after coming to the United States. She has had six children, three living, and been married 13 years. The present labor was the only difficult one, the delivery being instrumental.

When about two months pregnant she noticed a mass above the pubis and to the left. This mass gradually enlarged and was pushed further and further to the left and higher up with the growth of the uterus. At first there was no pain, then there was diffuse tenderness over the entire abdomen. The pain increased and became more marked on the left side. She had no history at any time of severe or sudden pain, but this growth continued to grow out of proportion to her period of pregnancy, but coincident with it. Unfortunately she was one of those women who do not engage a doctor until the moment she had a labor pain, and the physician who attended her did not see her until the night he was called

in for the confinement, and he made a diagnosis of hydramnion or twins with this immense abdomen. She was delivered instrumentally on January 19th. Immediately upon her delivery with forceps she became pulseless and complained of intense abdominal pain. Her abdomen was so large that the Doctor thought there was another child there, and he put his hand into the uterus to satisfy himself that there was not. After that he decided it was distention, and he let her go for that night.

The next day the distention seemed to increase, and the patient had diffuse abdominal pain and her pulse varied from 130 to 140, bad in quality, and she was sent into the hospital. When she arrived there her pulse was 100, temperature 99. Dr. Polak saw her that evening and let her go along until the following morning, as he thought her condition did not call for immediate interference. During the night the pulse suddenly went to 160. The Doctor went to the hospital early in the morning, and made a diagnosis of ruptured cyst, the diagnosis of cyst being made from the contour of the abdomen by the presenting tumor, and the peritonitis following the labor might be either from rupture or simply the extra traumatism, although she showed very few signs at that time of rupture. She was operated on within an hour after the pulse went to 160. As the abdomen was opened a quantity of chocolate colored fluid gushed forth, and the Doctor found the tumor which he exhibited. It had ruptured in two places. These two ruptures had become adherent apparently in the interval between the time of the primary rupture and the secondary to the abdominal wall. This second opening was adherent, and as he separated the tumor from its adhesions, quantities of this black, brownish fluid gushed forth, so that he concluded that she had a primary rupture at delivery and that a certain amount of adhesive peritonitis took place, which closed up one or both rents temporarily, and then the jolting in the ambulance, restlessness during the night, etc., caused a second rupture.

The cyst was rapidly removed; the entire operation took less than twelve minutes from the time anesthesia was begun. The abdomen was washed out with salt solution, a hole made in the cul-de-sac, and two large gauze drains placed there. The patient was put in Fowler's position. She made an uneventful recovery, except she ran a septic.

DR. L. G. BALDWIN asked if Dr. Polak washed out the abdomen in the first case, or if he left in

some of the colloid material. He said he certainly wished to congratulate the Doctor on operating two such interesting cases. Ruptured ovarian cysts without, or even with, twisted pedicles are comparatively rare, and it is interesting to know that these cysts had ruptured and such enormous quantities of fluid had escaped into the peritoneal cavity and yet the patient recovered.

In the second case, he would like to ask Dr. Polak what his method of anæsthesia was? If the Doctor was able in twelve minutes to anæsthetize a patient, do an abdominal operation, and sew the wound up, certainly that is the most rapid work Dr. Baldwin had ever known of.

DR. C. JEWETT thought these cases of very rare interest. He had observed two or three instances of ruptured cyst, one of which ruptured during exercise in a gymnasium. The woman experienced some shock and symptomatic trouble for a few days. Of the other two cases, one ruptured, with death in three days.

Dr. Pool, he said, could relate a case of ruptured dermoid cyst during labor, which might be of interest in this connection.

The second case speaks for diagnostic and surgical skill on the part of the reporter.

DR. W. P. POOL said the case of Dr. Jewett referred to was a rupture of a dermoid cyst, which occurred during labor, while forceps were being used; the dermoid cyst being pushed down through the posterior vaginal wall, not only the cyst but the vaginal wall ruptured as well with the passage of the head through the cavity. The contents of the cyst spilled into the peritoneal cavity and were expelled through the rent in the vaginal wall. The cheesy material was sponged out, and the cyst drawn down and amputated. The opening was loosely packed with gauze, the patient put in position with the head elevated, and an uneventful recovery followed, in spite of the fact that the peritoneum was soiled with the dermoid material. The case he said, had been reported before.

DR. POLAK, in conclusion, said there was one interesting point that he did not bring out, that was that the temperature had run high for a few days; the gauze drainage was left in for five days and then withdrawn, and yet the temperature did not come down. Within the last three days, however, the temperature has come down and reached normal. Coincident with the drop of temperature a copious quantity of this same material that was found in the abdomen came through the vaginal wound. In reopening the wound, believing there was some retention,

nothing could be brought away, yet spontaneously, keeping her still in Fowler's position, that localized abscess cavity, so to speak, had ruptured through the original wound intended for drainage and coincidentally with it the temperature subsided.

In answer to Dr. Baldwin's questions, Dr. Polak replied that the abdomen in the first case was not washed out. He would not say none of the fluid was left in, he did not know positively, but he felt in every fossa. No water was used in the abdomen or salt solution, the fluid was simply ladled out and bailed out with hands and the abdomen closed without any drainage.

In the second case morphine and chloroform were used as the anæsthetic, principally morphine. With the pulse going up and the manifestations of shock the house surgeon tried to prevent any restlessness on the part of the patient, and the patient had had during the night a half grain of morphine. She needed very little chloroform anæsthesia and she was practically operated on under morphine. He thought that had a great deal to do with the fact that she did not vomit any, and that her kidney secretion came on from the very first.

DR. BALDWIN asked Dr. Polak if the fact that a large quantity of this fluid was discharged five or six days afterwards indicated to him that vaginal drainage in this case was not drainage at all. Certainly it did not reach the point, and possibly drainage through the abdomen would have been better, although the termination by Nature's aid was fortunate.

DR. POLAK said that if he had another case he would use vaginal drainage and a tube in the lower end of the wound.

#### REPORT OF CASE: CÆSAREAN SECTION.

DR. W. P. POOL reported a case of Cæsarean Section, the woman, 35 years of age, having had two children previous to this pregnancy. Three weeks ago she came to the Long Island College Hospital, then between seven and eight months pregnant. She had complained during the three months previously of vaginal pain and hemorrhages occurring at various periods, and a foul discharge. Examination showed an extensive involvement of the cervix, with a cancerous growth, and also to some extent of the vaginal walls. The patient was kept under observation and treatment in the Maternity Ward for a period of nearly three weeks, it being hoped that her condition would improve during the day, and that viability of the child would become certain.



A hæmoglobin estimation was made on her admission and found to be 70%. The white blood count was 18,000. She did not appear to gain anything by her treatment, and the estimation of the hæmoglobin this week showed it to have decreased to 57%. Operation was then decided upon by Dr. Jewett, and a Cæsarean section was done.

The patient recovered well from her operation. The child survived nine hours, and died from prematurity, he presumed, in spite of the use of the incubator.

Dr. Pool said the delivery was accomplished in 35 seconds.

#### *Discussion.*

DR. JEWETT, at the request of Dr. Pool, described the technic. The incision was from the umbilicus down, with no intention of even-trating until the uterus was emptied. Dr. Watt held the ligaments controlling the vessels, and the rest of the work up to the point of delivery was precisely like that of the usual Cæsarean section. The placenta was implanted anteriorly, and the anterior uterine wall was very thick—quite an inch. The cancer proved to be larger than had been supposed from the examination made three weeks before. Finding no involvement of the broad ligaments he did a hysterectomy. The woman, however, had been septic, and the growth, therefore, was removed through the vagina. He cleared everything down to the vagina, amputated the uterus, then from below divided the anterior vaginal wall, reached the forceps up, caught the upper end of the stump, inverted it, and cut away the lateral and posterior vaginal wall well beyond the disease. The growth involved the whole circumference of the cervix and extended into the vagina on the left, forming a cauliflower mass as large as an orange.

The wound was lightly packed below with washed out iodoform gauze; another strip of gauze was placed in the cul-de-sac from above and stitched to the first.

At the time of correcting proof the patient was doing perfectly well, having had no symptom during the entire convalescence.

This is Dr. Jewett's fifteenth Cæsarean section.

DR. POOL, replying to a question, said that the delivery in 35 seconds meant the time from the beginning of the incision until the delivery of the child.

DR. V. L. ZIMMERMANN asked Dr. Jewett if the placenta being implanted anteriorly was encountered just at the incision into the uterus,

and in what way he proceeded, whether to push the placenta aside or to go through it; also whether he encountered the placenta immediately below the incision?

Dr. Jewett replied that the placenta was not incised, the uterine wall was divided down to the membranes, then he plunged his hand through the placenta and extracted the fœtus. Not more than one or two seconds are required to perforate the placenta and extract the fœtus. More time and blood are lost in going to one side of the placenta.

Paper: High Rectal Cancer, by Dr. Charles Jewett.

#### *Discussion.*

DR. R. L. DICKINSON had not seen cases that he thought warranted operation. The results have never seemed to him, in cases of other men that he has seen, to justify it, and while he believed that we are warranted in such procedures as will lessen pain and distress and stench in malignant disease, he was one of those who rather stand against vaginal hysterectomy and rectal extirpation in all cases except the early ones. His experience, he said, was too limited to be of any value.

Dr. Jewett, concluding, said that the surgical treatment of cancer in any case is a somewhat hopeless kind of work. He did not know that it is much worse in the rectum than elsewhere. Looking over the surgical authorities, the general opinion seems to be that in cancer of the rectum or other organs, the radical operation should be done unless conditions specifically forbid.

Improved results have been obtained in breast cancer by the method of Halstead. Equally good results by analagous methods have not been reached in gynecological work.

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## THE BROOKLYN SOCIETY FOR NEUROLOGY.

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REGULAR MEETING, DECEMBER 29, 1904.

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The Vice-President, DR. O. J. WILSEY in the Chair.

MIRROR WRITING IN THE RIGHT HANDED.

By Dr. Robert Kingman (see page 114, March issue.)

Some points in the Symptomatology of Diseases of the Posterior Fossa, by Dr. Joseph Fraenkel (abstract).

Many cases of lesions of the posterior fossa are still classified under the head of cerebellar disease; from the standpoint of practical therapeutics the distinction is not important, because of the difficulty with which that part of the skull is reached, and the few successful cases that are on record of the removal of growths.

Primary lesions of bone, meninges, basal nerves, cerebellum, pons or medulla have often been reported; aneurysms of the basilar and vertebral arteries and other vascular lesions are met with—localized syphilitic or tubercular meningitis is not common, but does occur. These conditions may be separated clinically into three groups: 1. Extra-cerebral lesions, e. g., fractures, hemorrhages, aneurysms, disease of the bone or meninges. These either remain outside the medullary structures or invade them by contiguity. 2. Intra-cerebral lesions; e. g., vascular lesions, tumors, abscesses; these are either strictly localized or extended by contiguity. 3. Lesions originating primarily in the basal nerves of the posterior fossa and invading the surrounding structures later. Headache, vomiting, and optic neuritis are early and obstinate symptoms in cerebellar disease; the opposite is true of pontine and medullary lesions. Superficial tenderness will occasionally indicate the side, though occipital headache is the rule, and with vomiting, is usually worse with change of posture. In extra-cerebral lesions the headache is indefinite and is frequently absent for a long time. Vomiting and optic neuritis develop much later in the disease. Attacks of amyesthesia and general vertigo are frequent and express cerebellar embarrassment. The Adam-Stoke's syndrome is not uncommon.

Trophic and visceral symptoms mostly accompany pontine lesions. It is very important to ascertain first symptom; in the cranial nerves, especially the fifth or eighth, early signs of irritation are important in suggesting extra-cerebral origin. Deafness, general locomotor incoordination, disturbances of circulation and respiration, hemi-paresthesias or paralysis of conjugated ocular movements introducing the disease, favor a diagnosis of intra-cerebral origin. Lesions originating in the basal nerves deserve especial attention, because, with rare exceptions, they are tumors (most frequently neuro-fibromata) beginning in the fifth or eighth nerve. This condition is not very rare, as Dr. Fraenkel has seen eight cases in four years. The diagnostic symptoms are as follows—obstinate trigeminal neuralgia, tinnitus aurium, aural vertigo, Meniere's syn-

drome, anesthesia or neural deafness, and finally generalized headache, vomiting, optic neuritis, cerebellar gait, hemiataxia and hemiparesis. Attacks of amyesthesia or of Adam-Stoke's syndrome are the most frequent symptoms.

## BROOKLYN MEDICAL SOCIETY.

The tenth annual or the 100th regular meeting of the Brooklyn Medical Society was held on the evening of Friday, February 17, 1905.

The President, Dr. R. W. Westbrook, in the Chair. Minutes of the previous meeting read and adopted.

### Applications for Membership:

Dr. John C. McEvitt, 407 Clinton street.

Dr. Thurston H. Dexter, 411 Hancock street, Long Island, '01.

Dr. H. F. McChesney, 90 Halsey street, P. & S., '02.

Proposed by Dr. R. W. Westbrook, and seconded by Dr. Walter C. Wood.

### Proposition for Associate Membership:

Dr. B. F. M. Blake.

Proposed by Dr. J. H. Droge, seconded by Membership Committee.

### Admissions to Membership:

Drs. Joseph Golding, Joseph Salomnfeld, Peter A. Keil. The following amendments to the Constitution proposed last month were acted upon and adopted.

Article III. The membership of this Society shall be composed of Active, Honorary and Associate members.

Article IX., Section 6. Shall be known hereafter section 5 and the following clause shall be added to it: "Honorary members shall be exempt from dues but shall be entitled to vote."

Article IX., Section 7. The Society may at any meeting by an affirmative vote of four-fifths of the members present elect to associate membership any physician that they may desire. Notice of such intention shall be given at a previous meeting. Associate members shall be exempt from dues but shall not be entitled to vote.

Paper: "The Operative Treatment of Congenital Dislocation of the Hip, in the New York Orthopædic Hospital," by Dr. Russell A. Hibbs, Surgeon of the N. Y. Orthopædic Hospital.

Dr. Hibbs exhibited some 25 different cases of

congenital dislocation of the hip upon which he had operated. On some he performed the Lorenz operation and on others his own modification. Several cases which he considered cured he showed, and exhibited X-ray pictures taken before operation and showed the patient after he had operated. In all of these the results were very satisfactory, the patients showing little or no signs of the previous trouble.

He also demonstrated cases which were partially cured; where successive operations had greatly benefited the condition but with no complete cure. In many of these cases he had in mind future operations in which he hoped to effect complete cures. The results attained in these cases were much to the doctor's credit, and the appreciation of the members of the society was manifested by the keen interest shown.

Again he exhibited and demonstrated several cases which he considered as failures. They did not respond to the treatment and after the casts were removed showed little or no improvement. He expressed the hope that future operations would be more successful.

He said that he had seen Dr. Lorenz operate in many instances. That the rapidity with which he worked and the amount of force used by him in the reposition of the dislocated heads of the femur so affected him that for a time he changed his *modus operandi* in these cases, after the slow and conservative course he had always adopted. That he tried the Lorenz method in many cases but came to the conclusion that the too rapid and forcible method was unnecessary and that the best results that he had achieved were those attained by the slow and conservative operative procedure.

The cases presented and exhibited by Dr. Hibbs certainly spoke volumes in favor of the method adopted by him.

The paper was discussed by Dr. C. D. Napier, Dr. E. A. Hatch and Dr. Loevenstein, of Manhattan.

A vote of thanks was tendered to Dr. Hibbs for his very interesting demonstration.

#### MEMORIAL MEETING.

Being the 100th meeting of the Society a special part of the evening's session was devoted to a memorial to those members who had died while on the roll of the Society since its institution ten years ago.

Dr. A. H. Brundage read the names of the deceased members and commented on their good

qualities and their usefulness to the Society and to the profession in general.

The Memorial address was delivered by the Rev. S. Parkes Cadman, D.D.

Dr. Cadman's address was brief and to the point and held the attention of the hearers. A vote of thanks was tendered him.

HUGH EDWARD ROGERS, M.D.,  
*Recording Secretary.*

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#### PROGRESS IN GYNECOLOGY.

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BY CHARLES JEWETT, M.D.

#### RESULTS OF OPERATION FOR CANCER OF THE UTERUS.

Duret and Besson (Rev. de Gyn. et de Chirug. Abd., May and June, 1904) discuss the comparative merits of vaginal and abdominal hysterectomy in cancer of the uterus. In forty operations by the lower route there were six operative deaths, 15 per cent. Twenty-three abdominal hysterectomies were performed with an immediate mortality of ten, a little more than 43 per cent. Of the vaginal cases one died of hemorrhage, one of peritonitis, one owing to injury to the sigmoid, one of shock, one of pneumonia and one of cardiac disease. After the abdominal hysterectomies there were four deaths from shock, three from sepsis, one from ligation of both ureters, one from bladder injuries and disease of one ureter, one from mitral stenosis.

Not only was the operative mortality of abdominal operations greater, but the ultimate results were not so good as in vaginal hysterectomies.

In twenty-four of the vaginal cases the subsequent history was traced. Thirteen were free from recurrence after one year, eight from one to two years and three after two years.

Out of nine patients treated by abdominal hysterectomy, who survived operation, six died within ten months thereafter.

In the absence of lymphatic infection the authors believe it possible to remove all cancerous tissue by the vaginal route. When the lymphatics are invaded, the abdominal route permits more extensive dissection, but offers no real advantage.

#### HYSTERECTOMY IN ACUTE PUERPERAL INFECTION.

Christeanü (Rev. de Gyn. et de Chir. abd., July and August, 1904). This is an elaborate discussion of the subject. C. prefaces his paper with

the remark that, in the absence of localization, the operation is practically useless.

The author has collected eighty reported cases of hysterectomy in acute puerperal infection. Reports published by Hofbauer, Asch and Hirst, numbering thirty-nine, are thrown out as indefinite and inconclusive. In the forty-one remaining cases there were over 75 per cent. of deaths. The mortality was greater after term labors than after abortion, 78.6 per cent. in the former and 76.7 per cent. in the latter. Yet, on close scrutiny of the statistics, C. is disposed to believe that the results are in fact, less favorable than the foregoing figures would indicate. On the other hand the mortality, in a parallel series of cases, should not exceed 10 per cent. under the usual means of treatment without hysterectomy.

When clearly marked local complications such as parametritis or allied affections are present, the author, of course, concedes the necessity for surgical intervention for drainage only. So, too, usually hysterectomy is indicated in complete rupture of the uterus. Hysterectomy in infections with complicating appendicitis, ovarian cyst, pleurisy, etc., do not belong to the class under discussion. Infected or sloughing fibroids usually demand operation, despite the fact that the results are numerically bad. Of six hysterectomies on the latter indication, three died. Of thirty-two cases in which the operation was done for retention of necrotic secundines, nineteen died. Here the mortality was 63.7 per cent. in post partum, and 41.7 per cent. in post abortum operations. It is doubtful if better results were obtained by the major operation than would have been possible by the simple evacuation of the uterus. In perforation of the septic uterus, hysterectomy, the author observes is imperative. In five cases of the latter class all recovered. Special stress is laid on the fact that hysterectomy for puerperal sepsis is more fatal after term labors than after abortions.

#### ECTOPIC GESTATION DUE TO TUBERCULOUS SALPINGITIS.

Kober (*Monatsschr. f. Geb. u. Gyn.* No. 6, 1904) reports a case of extra-uterine pregnancy in which the cause was believed to be tuberculosis of the tubes. The ovum had lodged in the ampulla. Gonorrhea and sepsis are common factors in the etiology of tubal pregnancy, but tuberculous disease has rarely been observed as a cause. All act, as Opitz has pointed out, by producing agglutination of the longitudinal folds of the tubal mucosa. As the opposite tube was

closed it was evident that the pregnant tube must have been pervious to the spermatozooids.

#### TUBAL ABORTION AND RUPTURE IN ECTOPIC PREGNANCY.

Gottschalk (*Zentralbl. für Gyn.* No. 4, 1904) relates a case at the second month of tubal gestation in which well marked contractions of the tube could be distinctly made out and in which a profuse intraperitoneal hemorrhage followed soon after. The bleeding was so active that the woman became pulseless. The case was of interest because exceptional, much tubal hemorrhage seldom being observed early in tubal abortions. While free hemorrhage may occur at some stage of tubal abortion it is rare, G. thinks, except after several minor attacks of bleeding. The patient gave a history of one attack of pelvic peritonitis and of nine abortions.

#### PUERPERAL THROMBOSIS AND EMBOLISM.

Richter (*Archiv. für Gyn.*, Vol. 1, xxiv., Bd. 1) discusses thrombosis and embolism from the standpoint of data collected from the Dresden Maternity Clinic. He directs attention especially to the value of Mahler's symptom, as shown by the pulse and temperature charts. The pulse rises steadily regardless of the temperature. In 16,000 puerperæ there were twenty cases of embolism, seventy-eight of thrombosis and eighteen cases which were noted in the records as puerperal pulmonary complications. In 34 per cent. of the foregoing cases Mahler's symptom was not well marked, but in these it was obscured by fever from various causes which had preceded the attack. In 2 per cent. of cases only did the sign wholly fail. Of the cases of embolism 60 per cent. terminated fatally, twelve of the latter abruptly.

A progressive rise of the pulse is a very significant danger signal, even in the absence of early dyspnoea.

#### PROGRESS IN SURGERY.

BY GEORGE R. FOWLER, M.D.

#### MAURANCE OR A MIXED METHOD OF ANÆSTHET- ISING.

Maurance, following the earlier teaching of Langlois, shows that accidents from the drop method of administering chloroform may be pre-

vented by sparteine 0.05, together with morphine 0.01, injected half an hour before beginning the anesthetic. Their method has been used with success in several thousand cases, and in no instance has any trouble with the heart occurred. Complete relaxation of the muscles was obtained in eight minutes at the longest. The stage of excitement was absent in the majority of cases, and always if injection took place forty minutes before beginning the chloroform.

Vomiting, during or after anesthesia, was noticed less often than usual. Heart action first increases, then falls to between seventy and eighty, and remains there during the continuance of narcosis.

Troublesome after-effects are generally very slight, because of the tonic effect of the sparteine.

#### CONTRIBUTION TO THE SCHULTZE TECHNIC OF GASTRIC RESECTION.

76th Meeting of German Naturalists and Physicians in Breslau. Reported in *Zentralblatt für Chirurgie*, 1904, XLVII, 1365.

The contribution to the technic of gastric resection refers to the method proposed by Kocher. As is well known, Kocher resects by closing the stomach, after removal of the tumor, and then implanting the duodenum into the posterior gastric wall.

Schultze's modification, tried in three instances, refers to the kind of duodinal implantation. The operation is as follows: After removal of the tumor, the posterior gastric wall is incised parallel with the resection, and two or three fingers' breadth from the same. The gastric clamp is applied so as to leave a sufficient gastric lumen. The duodenum is now pulled through this aperture, its normal edges are united with those of the stomach by means of about ten of Roser's "Klauenschieber" (clawlike forceps). By this simple manipulation, which may be performed very rapidly, an exact adaptation of the wound edges is obtained, the subsequent suturing of which completes the implantation. The surroundings are covered aseptically, only the line of suturing being visible. For security's sake we add a suture of the serous membrane. Next the gastric lumen is sutured, and that, too, with rapid closing by means of "Klauenschieber." Finally, the serous membrane is sutured with turning in of the first suture.

This modification offers the following advantages: first, added security of duodenal implantation; second, simplification of procedure and shortening the time of operation.

#### PROGRESS IN OTOLGY.

BY JOHN E. SHEPPARD, M.D. AND STEPHEN H. LUTZ, M.D.

Deafmutism: from *Deutsche Medicinische Wochenschrift*.

Bezold states that in rather more than half of all cases of deafmutism, the condition is acquired and that generally during the first and second years of life. He has encountered a family recently in which two children were deaf mutes, as also were both parents and a common great grandfather. He warns against consanguineous marriages between deaf mutes, although deaf mutes may intermarry under other circumstances. In 233 cases of acquired deafmutism, 74 followed cerebro-spinal meningitis, 47 followed cerebral typhoid. Some brain process preceded deafmutism in 51.9 per cent. of cases. Scarlet fever in 18 per cent.; 1.9 per cent. due to mumps; about 6.5 per cent. due to inherited syphilis, 6.4 per cent. to otitis media and 3 per cent. to falls on the head. He found traces of hearing in all but 79 cases out of 276 deaf mutes examined. In cultivating this remnant of hearing a hand-mirror is of great assistance. The subject watches in the mirror the lips of the person speaking directly into his ear. It is necessary that this training should be individual, not in class, especially not in a class with the totally deaf. By this individual instruction the deaf mute learns to speak with natural intonation.

New Method of Skin-Grafting the Cavity after Mastoidectomy. *Clinical Journal*. Douglas Drew says in part: "After performing the complete mastoid operation a meatal flap is cut after Ballance's method, and the cavity in the bone is packed with gauze through the meatus, the wound behind the ear being sutured throughout. After fourteen days, a graft is cut large enough to cover the whole surface, and is spread on moistened silk court plaster with raw surface uppermost. Cut away redundant court plaster. Then pass plaster and graft in through meatus and pack closely with gauze to keep in position. At end of ten days plugs may be removed and plaster withdrawn. This method renders unnecessary the reopening of the wound. It is easier to apply the graft in this way, no blood gets beneath the graft, and the troublesome manipulation of a graft in a small irregular deep-seated cavity is dispensed with."

Aneurism of Carotid in the Tympanic Cavity. *Monatsschrift für Ohrenheilkunde*. Schulte re-

ports a case of the above. Patient 26 years old; old chronic suppuration left ear with medium sized perforation, anterior inferior quadrant, through which projected a round, tumor-like mass with smooth reddish blue colored surface. No pulsation. Diagnosis of polyp snare and chronic acid used without removing mass. Then incision was made, followed by profuse hemorrhages from ear and Eustachian tube which kept up at intervals of forty-one days. For a time controlled by gelatine injections, after packing proved of no use. Finally, left common carotid was ligated. Probably due to aneurism of internal carotid, where plate in roof of carotid canal was very thin and had been injured in some previous treatment of the ear, or the plate had become necrosed on account of long continued suppuration in the ear and carotid had pushed through.

**Artificial Obliteration of the Eustachian Tube.** *Boletin de Lar. Otol. y Rin, Madrid.* Dr. E. V. Segura, of Buenos Ayres, says in part: This procedure is undertaken as a means of obviating intra-tympanic infection from the naso-pharynx in cases of total loss of tympanic membrane, or in those cases where the damage to the ear is of such extent or duration as to preclude any possibility of repair and the inflammatory exacerbations must be of such a nature as to leave no doubt that they are of naso-pharyngeal origin and not due to intra-tympanic conditions.

The author advises the obliteration of the tube by means of a specially made galvano-cautery point, something like a catheter with spiral wire tip, introduced into tube mouth by aid of post rhinoscopic mirror. In a few cases tried by the author the procedure was satisfactory, reaction slight and no after-treatment needed.

(Query—Is not the author sealing up the wrong end of the Eustachian tube? It appears to the reviewers that the tympanic end would be the one to attack if the tube had to be closed).

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#### MEDICO-LEGAL NOTES.

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BY EVARTS L. PRENTISS, B. LITT., OF THE NEW YORK BAR.

#### REGISTRATION OF NURSES.

Chapter 293 of the Laws of the State of New York for the year 1903, which became a law on April 24, 1903, added to The Public Health Law a new article relating to the Registration of Nurses.

By its provisions, any resident of the State,

over twenty-one years of age, of good moral character, holding a diploma from a training school for nurses connected with a hospital or sanitarium giving a course of at least two years, and registered by the Regents of the University of the State of New York, as maintaining proper standards, and who shall have received from the Regents a certificate of his or her qualifications to practice as a registered nurse, shall be styled and known as a registered nurse, and no other person is allowed to assume such title or use the abbreviation R. N., or any other words, letters or figures to indicate that the person using the name is such a registered nurse.

Before beginning to practice nursing, every registered nurse is required to record such certificate in the County Clerk's office of the County of his or her residence, with an affidavit of identity. The act requires a subsequent recording to be made in the month of January, 1906, and in every thirty-sixth month thereafter.

The examinations of nurses for certification are conducted under the rules made by the Regents and by a board of five examiners appointed by the Regents from a list nominated by the New York State Nurses Association. The act provides that the Regents shall charge for examination and for certification a fee of five dollars, to meet the actual expenses.

The Regents have power to revoke any certificate for sufficient cause, after notice and hearing thereon. They may, upon the recommendation of the Board of Examiners, waive the examination of certain classes of qualified and trained nurses applying for certificates within three years after the passage of the act, and also grant a certificate to any nurse of good moral character, who has been engaged in the actual practice of nursing for not less than three years prior to the passage of this act; and who shall satisfactorily pass an examination within three years after that time.

Any violation of the article is declared by the act to be a misdemeanor.

Section 834 of the Code of Civil Procedure, prohibiting the disclosure of professional information by physicians was amended by Chapter 331 of the Laws of 1904, to include a professional or registered nurse.

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Dr. Wackerhagen requests that the words "operation for gastro-enterostomy" under fig. 5 of his paper on page 108, this JOURNAL, be omitted. (Eds.)

# Brooklyn Medical Journal.

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## CLEAN STREETS.

As personal cleanliness is an attribute of the higher types of mankind, so the prevailing degree of civic cleanliness denotes very largely the stage of civilization at which the governing officials and the mass of voters have arrived in the march of civic progress.

The highest type of civilization is that in which neighbor shows for the rights of neighbor the most consideration. The civic neighborhood has a right to those factors which are known to make for healthful living—good water, pure air, and abundant light. In so far as a city falls below the best obtainable of these, its civilization is deficient. Brooklyn's most pressing need just now is for cleaner streets—for an atmosphere relieved of its dust-laden condition.

Asphalted streets, of which this city may now boast a goodly number, are an advance in a city's cleanliness, but it is becoming clearly evident that streets so paved are hardly susceptible to the method of sweeping given to cobble-pavements.

Next in order to the laying of streets with asphalt, must be inaugurated a system of cleaning them which shall include in the process a plentiful supply of water. The use of the hand watering-can, now almost extinct, does but little to prevent the formation of dust.

Provision for flushing asphalted streets in summer, and, also, at profitable times in winter, should become one of the regular and accepted methods of street cleaning.

The unprecedented filthy conditions following the continuously-frozen snow and ice of the streets during the past winter will not have existed without good following if an improved and more effective method of street cleaning should be inaugurated as an outcome.

## THE EFFECT OF THE INCREASED WEIGHT OF SURFACE CARS ON THE PRODUCTION OF STREET DUST.

A serious drawback of the large and more weighty street cars now in use is the greater amount of dust created by their passage. The production of dust due to this cause has been noticeable of late even to the most casual observer.

Even with the ground frozen, and with the temperature of the air considerably below freezing, a column of fine dust follows in the wake of each rapidly moving car. Because horses must use the same space, objection exists to the laying of asphalt between the rails, otherwise part of the difficulty could be overcome by that means. As it is, the tremendous impact of rapidly-moving cars creates a vibration which every particle of unmoistened dust in the vicinity of the rails must needs respond to. It is difficult to overestimate the harmful influence of the mass of fine dust thus set free into the atmosphere of streets traversed by car tracks, upon the respiratory apparatus of those who are compelled to breathe this dust-laden air.

The least which the city has a right to expect of a railroad company using the streets for traction purposes is that it shall keep the streets so used well sprinkled, especially in summer. In winter it is questionable whether the judicious use of oil, as employed by steam roads, might not be used to render travel on the streets more comfortable and wholesome.

## DINNER TO DR. OSLER.

The farewell dinner to be held in New York City in May, at which Dr. Osler will be the guest of honor, will emphasize in the minds of laymen the peculiarly high regard in which he is held by the medical profession of this country. His departure to a new field of labor gives his confrères an opportunity to express their regards for his qualities as a man, as well as for his ability as a physician.



## OBITUARY.

HOMER LYMAN BARTLETT, M.D.

BY WILLIAM SCHROEDER, M.D.

In recording the death of Dr. Bartlett it is with that feeling of respect to his memory that can only come from one who has been associated with him in the historical work of our society and who has had the pleasure of calling him a life-long friend. For almost fifty years he has practiced the healing art in our city, beloved by all who knew him. He was born on October 17, 1830, at Jericho, Vermont, and died at Thomasville, Georgia, on February 3, 1905. His father was Elias Bartlett, of Jericho, and his mother, Eliza Wheelock, of Williamstown, Mass. In 1859 he married Margaret Strong Scott, of Coopers-town, N. Y. She died in 1876; in 1880 he married Harriette Forde Moore. There were five children born—Henry, James, Eliza, Catherine and Margaret—Eliza being the only child living.

Dr. Bartlett was educated at the Jericho Academy and the Bohnsfield Institute. He began the study of medicine under the direction of J. Hamilton, M.D., of Jerico, and continued it in New York under Willard Parker, M.D., LL.D. He attended lectures at the Woodstock Medical College, Albany Medical College and the College of Physicians and Surgeons, New York City, where he received the degree of M.D. in 1855. This was followed as interne in the Kings County Hospital during the years 1855 and '56; the following year he was in practice in New York City, and in 1857 removed to Flatbush, where he remained until his death. For forty years he was consulting physician to the Kings Hospital; thirty-five years medical examiner of the Equitable Life Assurance Company; twelve years health officer of Flatbush, and for the same number of years visiting physician to the Kings County Penitentiary.

He was a member of the Medical Society, County of Kings, from 1859-1905; vice-president in 1865, New York Physicians' Mutual Aid Association, American Medical Association; delegate to the International Medical Congress in London in 1881; New York State Charity Aid Association and the Associated Physicians of Long Island.

He was also connected with the Long Island Historical Society, Kings County Lodge, F. & A. M., of which he was Master in 1869; 1876, '77 and 1889 in Midwood Club, of which he

was the first president; director in the Flatbush Water and Trust Company, and president of the Police Board and Flatbush Gas Company.

WILLIAM SCHROEDER, M.D.,  
*Chairman of Historical Committee.*

## MEDICAL AND OTHER PAPERS.

BY HOMER L. BARTLETT, M.D.

- 1863. Cancer of the Lip.
- 1864. Tuberculosis of the Testicles.
- 1874. Physical Culture.
- 1874. Thermometrical Note in Disease.
- 1874. A New Departure in Hydrophobia.
- 1877. Origin and Use of Symbols in Lecture.
- 1877. History of Initiation: Ancient Rites Lecture.
- 1883. Melrose Hall, Flatbush.
- 1892. History of the County Farm.
- 1895. Address: The Family Doctor—Otter-son Dinner.
- 1896. Obituary John Lloyd Zabriskie, M.D.
- 1897. Progress of the Healing Art.
- 1892. Reminiscences of the Early Physicians of Kings County.
- 1898. Address: L. I. Alumni Association of Columbia College.
- 1898. Obituary: John Terry Conkling, M.D.
- 1898. Biography: Thomas Turner, M.D.
- 1899. History of the Kings County Hospital Staff.
- 1899. Vaccination: Its History and Utility.
- 1899. Obituary: William Henry Bennett, M.D.
- 1899. Obituary: John Rutgers Vanderveer, M.D.
- 1899. The Woman's Auxiliary—The M. S. Co. of K.
- 1899. Obituary: Louis Bauer, M.D.
- 1899. Obituary: James Wood, M.D.
- 1899. History of the Kings County Hospital.
- 1900. Obituary: John Cargill Shaw, M.D.
- 1900. Obituary: Teunis Schenck, A.B., M.D.
- 1900. Medical Men as Factors in History.

## SKETCHES OF LONG ISLAND.

KINGS COUNTY RURAL GAZETTE, 1875-76.

BY HOMER L. BARTLETT, M.D.

The Indian Tomahawk and the Dutchman's Pipe.  
Tradition of the Aborigines.

Discovery of Nassau.  
 Wouter Van Twiller.  
 Settlement of Nassau.  
 Dutch Rule in Nassau.  
 Indian Revenge.  
 Visit of State; Provincial Town of Gravesend.  
 Curious Customs and Social Manners of the Olden Times.  
 Articles of Agreement With Johanus Van Eckkelen.  
 Ancient Schoolhouse and Erasmus Hall.  
 Dutch Dominies.  
 Early Dutch Clergyman of Kings County.  
 Ancient Landmarks.  
 Early Physicians of Kings County.  
 Early Dutch Clergyman of Kings County.  
 Ancient Laws and Halls of Justices.  
 Pirates and Money Diggers.  
 Captain Charles Gibbs and the Money Diggers of Pelican Beach.  
 Spectre of Martense Lane.  
 Hob Goblin of Flatbush.  
 The Pirate's Grave.  
 The Ghost of Melrose.  
 A Glance of Early Life in Brooklyn 240 Years Ago.

## MEDICAL NEWS.

EDITED BY CLARENCE REGINALD HYDE, M.D.

*It is earnestly hoped that all members of the profession possessing news concerning themselves or their friends, which would interest others, will communicate the same to the News Editor before the 9th of each month. Items for this department should be sent promptly to Clarence Reginald Hyde, M.D., 126 Joralemon Street.*

Dr. Nelson L. North announces his removal to 150 Hancock Street.

Dr. Le Grand Kerr announces the removal of his office to 110 Cumberland Street.

Dr. William Linder has removed his residence and office from 640 Nostrand Avenue to 1701 Eastern Parkway, near Hopkinson Avenue.

Dr. James Watt was confined to his house two weeks with a severe attack of quinsy. He was attended by Dr. William Dudley.

Dr. Robert S. Royce, of 211 Greene Avenue, announces the birth of a boy, Robert, named after his ancestor, Robert Royce, who was the first Royce to come to this country in 1530.

Dr. Charles Jewett, of 330 Clinton Avenue, has been invited to deliver the annual oration at the meeting of the Medical Association of the State of Maine, in Portland, on the eighth of June. The subject of the address will be a gynecologic question.

Dr. Arthur C. Brush, of 29 South Portland Avenue, sails on the Cedric, about June the first, for an extensive European tour.

We regret to announce the death of Dr. Hugo Koethe, 262 Vernon Avenue, a member of the Medical Society of the County of Kings, on the 16th of March.

Dr. Joseph H. Raymond, Secretary of the Faculty of the Long Island College Hospital, has had completed and printed in Spanish a small booklet, telling of the course of instruction in the College, and Dispensary, and numerous other items of information for any Spanish students who may intend to study medicine in New York City.

Dr. William Osler, in a recent interview, said: "I have been so misquoted in the papers that I should like to make the following statement:

"First—I did not say that men at 60 should be chloroformed. That was the point in the novel to which I referred, and on which the plot hinged.

"Second—Nothing in the criticisms have shaken my conviction that the telling work of the world has been done and is done by men under 40 years of age. The exceptions which have been given only illustrate the rule.

"Third—It would be for the general good if men at 60 were relieved from active work. We should miss the energies of some young old men, but on the whole it would be of the greatest service to the sexagenarii themselves."

It is authoritatively reported that ground will soon be broken for the long-looked-for new Long Island College Hospital.

Mortimer Wright Shaw, M.D., a well known New York physician, whose office was at 117 Cedar Street, died at Middletown, N. Y., recently of typhoid pneumonia. He was 37 years old. He went to Middletown to visit his mother, Mrs. Elizabeth Shaw, one week ago. He was a graduate of the Long Island College Hospital, class of 1893, and has served in the Kings County Hospital. Dr. Shaw is survived by his wife, Florence Perkins, and one child.

Dr. William A. Dunn, one of Boston's most noted physicians, has become a member of the medical and surgical staff at the Vatican. Dr. Dunn is 50 years old, and graduated from Harvard Medical School in 1875. After studying

abroad for some time he returned to Boston, where he built up a fine practice. His scientific attainments in medicine and surgery secured him the place of consulting physician with the chief medical attendant of Pope Pius X.

Dr. Albert Benjamin Prescott, director of the chemical laboratories of the University of Michigan, professor of organic chemistry, dean of the School of Pharmacy, and the oldest professor in the University in point of years and service, died recently at Ann Arbor, Mich. He was 72 years old, and a former president of the American Association for the Advancement of Science and of the American Pharmaceutical Association.

It is announced that the Health Department's new building in Brooklyn, made necessary by the unsanitary condition of the present quarters in Clinton Street, is to have attached to it a tuberculosis sanitarium of the most modern description. The new building is to be erected in Flatbush Avenue, near Fulton Street, and is to cost \$200,000. The scheme of a tuberculosis institution has been under advisement for a long time. It is proposed to build a one-story structure, tiled throughout, without a particle of wood or other material to harbor germs. The tuberculosis ward will be attached to the main building, which will be used for the business offices of the department, and fitted for scientific experiments. It is expected that the new structure will be completed within eighteen months.

The Board of Directors of the Manhattan Eye, Ear and Throat Hospital are contemplating the building of a new hospital on Sixty-first Street, between Second and Third Avenues, to cost \$200,000. Mr. Frank Tilford, one of the newly elected directors, pledged \$25,000 for the construction of an Ear Clinic, and advocated the immediate beginning of work on the new building, even if a debt were incurred.

The Aldermen have appropriated \$35,000 to enable Dr. Darlington to make a census of the congested districts with a view to restricting the spread of contagious diseases.

The singing of the Glory song for cancer sufferers is the latest outcome of the Torrey-Alexander Mission. An English Countess has paid for installing an electrophone in the cancer ward of Middlesex Hospital, where the triumphal hymn was brought from Albert Hall. A transmitter was fixed on a dais in the hall, with the receiver at the head of each bed. The mission singing and preaching alike can be heard distinctly, and seem to be much appreciated.

The Directors of the Babies' Hospital are ask-

ing for donations to a fund to be used for increased accommodations. The hospital was opened in 1902, but so great was the demand upon it that its full capacity was required six months later, and has been since. Last summer a third of the applications had to be rejected. The directors hope to raise \$25,000. Checks may be mailed to Henry R. Kunhardt, treasurer, 17 Battery Place.

At the date of this writing, 386 deaths from cerebro-spinal meningitis, since January first, have been reported. So alarming is the increase that Health Commissioner Darlington has appointed a special commission of well known medical men and pathologists to investigate this disease, and, if possible, suggest some remedy to prevent its spread.

The commission which Dr. Darlington has summoned to face the menace to the city is composed of: Dr. William M. Polk, chairman, dean of Cornell Medical College; Dr. Walter B. James, professor in the College of Physicians and Surgeons; Dr. William P. Northrup, professor in children's diseases in Bellevue Hospital and at New York University. Dr. Simon Flexner, head of the Rockefeller Institute; Dr. Joshua M. Van Cott, pathologist at the Long Island College; Dr. E. K. Dunham, pathologist of Carnegie Laboratory; Dr. William K. Draper, visiting physician at the Bellevue and Minturn Hospital, and a specialist in cerebro-spinal meningitis.

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## BOOK REVIEWS.

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CELLULAR TOXINS, or the Chemical Factors in the Causation of Diseases. By Victor C. Vaughan, M.D., LL.D., and Frederick G. Novy, M.D., Sc.D. Fourth Edition. Revised and Enlarged. Phila. and N. Y., Lea Bros. & Co., 1902. viii, 17—495 pp. 1 pl., 8vo. Price: Cloth, \$3.00.

The new edition of this well-known work is brought up to date, and largely rewritten. The advances in our knowledge of the subjects of which it treats are so rapid that many of the statements to be found in the early editions have become less important and newly discovered facts have so increased in importance that the authors have been compelled to change the title, in this edition, to express the contents of the volume. The importance of ptomaines as a cause of disease has greatly decreased, or rather, the importance of toxins has so overshadowed them, as to be regarded as the most important chemical cause of disease. The authors have given us a fairly complete account of the bacterial toxins, and antitoxins as well as the autotoxins of the human body or the leucomaines. They have crowded into the volume a large amount of general information on these subjects in addition to the more technical chemical information.

E. H. BARTLEY.

**SERUMS, VACCINES AND TOXINS IN TREATMENT AND DIAGNOSIS.** By William Cecil Bosanquet, M.A., M.D. Oxon., F.R.C.P. Lond. Chicago, W. T. Keener & Co.; London, Cassell & Co., Ltd., 1904. vii, 344 pp. 12mo. Price: Cloth, \$2.00.

This little manual is designed to present in concise form what is known on the subjects of immunity and serum-therapy. The literature of these subjects has become very voluminous and is scattered. The author has done a great service to the medical profession by collecting and arranging the chief facts, theories and speculations on these subjects and publishing them in a condensed and readable form. The book is to be recommended to all who wish to inform themselves on these complicated subjects, without a vast amount of reading.  
E. H. BARTLEY.

**EPILEPSY AND ITS TREATMENT.** By William P. Spratling, M.D. Phil., N. Y. & Lond., W. B. Saunders & Co., 522 pp., 31 pl. 8vo. Price: Cloth, \$4.00.

There are many striking features about this book; on the one hand its beautiful get-up, the well-executed engravings, the usually clear text, its apparent breadth of scope; on the other its false gloss and many imperfections. Only a few of these last can be specially referred to.

Nearly a third of the 45 pages on the surgical side are strangely devoted to matters of technique, familiar to every operator. In "the prevention of an immediate attack" he does not mention the most common plan of all, that of taking a swallow of some liquid, as water. The question of the relation of rickets seems unknown to him; Ohlmacher's crude but highly important observations do not appear to have been regarded except in the list of references (Institution men rarely get an adequate insight into etiology).

Sub "Influence of Sex" his figures also indicate a slightly more favorable prospect for males, but he does not mention the work of Govers or the reviewers. Amongst the physical evidences in epilepsy due to accident, he overlooks the form associated with traumatic cephalhydrocele. The picture in plate 9 shows a left and not a right conjunctival hemorrhage. Medico legal discussions in such a work lose value when evidently influenced by the prejudices which personal court-cases have evoked; and he even speaks in apparent disparagement (page 501) of "the extraordinary features" of some judges' charge that nevertheless cause some good to rise. The great therapeutic value of times of digitalis or other cardiac agent, and less often of nux or its relatives, finds no mention.

While no division of his subject appears to be worked out with any thoroughness; still if his discussion be considered merely as illustrative, the work can be accorded praise. Its teachings are generally sound.  
W. B.

**SURGICAL EMERGENCIES; THE SURGERY OF THE ABDOMEN; PART I; APPENDICITIS AND OTHER DISEASES ABOUT THE APPENDIX.** By Bayard Holmes, B.S., M.D. N. Y., D. Appleton & Co., 1904. V-XVI., 350 pp., 21, 8 col. pl. 12mo. Price: Boards, \$2.00.

This is the second volume which the author has presented in his series on Surgical Emergencies. Two hundred and forty-one pages of this volume are devoted to appendicitis. In the remaining one hundred pages are discussed the subjects of peritonitis, intussusception, perforating typhoid ulcer and carcinoma of the intestinal tract.

The author has treated the subjects in a clear, concise and interesting manner. The subject matter is frequently better than the diction. The substance better than the form. On page to the author grows eloquently "luminous" and finally winds up his panegyric by referring us to Plate I, which fittingly translates the author's thought in its lambent, lurid and luminous suggestiveness.

The author indulges in a modest bit of naivete on page 37. when in making his rounds on the morning

following an operation for appendicitis he fails to recognize his patient operated on the day before, and apologizes for getting in the wrong room. This is but a natural mistake when we hear the author's explanation of it, "The change in his appearance was so great in this short time that I had failed to recognize him," likewise he wore "a most beautiful and animated expression." But enough of this. In the diagnosis and treatment the author has given us a splendid exposition of the best and latest thought on this subject. The text is strengthened by citation of appropriate cases and the use of excellent illustrations.

WILLIAM FRANCIS CAMPBELL.

**THE SURGERY OF THE DISEASES OF THE APPENDIX VERIFORMIS AND THEIR COMPLICATIONS.** By William Henry Battle, F.R.C.S., and Edred M. Corner, M.B., B.C., F.R.C.S. Chic., W. T. Keener & Co., 1905. Front, VII-XI, 13-207 pp. 8vo. Price: Cloth, \$2.50.

This volume forms an interesting and valuable contribution to the literature of appendicitis. In this book-making age the contributions to medical literature are far in excess of the acquisition.

It is a pleasure to peruse this work because it is the product of clinical observation and the record of accurate deductions from clinical facts.

In discussing the physiology of the appendix the authors agree with Berry of Edinburgh, that the appendix is not a vestigial structure, but a specialized part of the alimentary canal. The term "appendicular constipation" is especially apropos in describing the role of concretions in appendicitis.

The value of leucocytosis is well formulated. The authors neither ignore it or underrate it, but they rightly consider that the clinical features form by far the most expressive and reliable aidication for operative treatment.

In the diagnosis of appendicitis we fail to find any reference to one of the most important symptoms, viz.: Rigidity of the right rectus muscle. The other important features are well brought out, and we note a constant reference to the "importance of rectal examination."

We desire to call special attention to two chapters in this work which are deserving of notice, because of their special excellence. We refer to the chapters on "Peritonitis" and the "Acute Abdomen." The perusal of these chapters will amply repay the reader. On page 69 the procedure ascribed to Dawbarn should be credited to Weir.  
WILLIAM FRANCIS CAMPBELL.

**THE PRACTICAL MEDICINE SERIES OF YEAR BOOKS; VOL. X., SEPTEMBER, 1904. Skin and Venereal Diseases; Nervous and Mental Diseases.** Chicago, Year Book Pubs., 1904. 234 pp. 12mo. Price: Cloth, \$1.00.

A reviewer of this little volume in and of itself essentially a review would seem an unnecessary labor, however it might here be conceded that the references dermatological in character as well as those connected with branch of medicine, comprise all or almost all of the moot points of the subjects most touched upon during the past year, and are carefully chosen and well considered. Still it may be said as well that they are really intended for, or of most use to illuminate on those subjects, and as such are not intended for the general practitioner, or student.

We think on the whole, that the two or three pages considering the general aspect, and conclusions on Actinotherapy and Radiotherapy, as connected with Dermatology, are the best for the average medical reader, and in a certain sense and degree the most instructive in the book. The failures and defects of those methods, and the imperfection of our knowledge regarding their action are given as well as their successes.

The other portions of the volume as on subjects more or less related to Dermatology, as Syphilis, Chancroid lesions, and Genito-Urinary matters afford interesting and instructive reading; as do those also on Nervous and other diseases.  
S. S.

# BROOKLYN MEDICAL JOURNAL

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No. 5.

## ORIGINAL ARTICLES.

### **SURGICAL TREATMENT OF CIRRHOSIS OF THE LIVER.\***

BY RUSSELL S. FOWLER, M.D.,

Attending Surgeon to the German Hospital; Associate Surgeon to the Brooklyn Hospital; Assistant Surgeon to the Methodist Episcopal Hospital, Brooklyn, New York.

In order to understand the rationale of surgery in the treatment of liver cirrhosis, with ascites, it is first necessary to review briefly the pathology of portal obstruction. It must be remembered that collateral circulation is rarely established to a sufficient degree to afford much relief to the obstruction of the portal radicles in the liver. To this lack of sufficiency of the portal circulation to meet the demands upon it is due a number of what may be termed secondary lesions of the cirrhotic condition. In such cases the hemorrhoidal and vesical veins are enlarged; also the veins of communication between Glisson's capsule and the diaphragmatic veins. The collateral circulation which helps to relieve the portal obstruction, consists of communicating veins between the systems of the portal vein and the inferior vena cava, for example, the communications of the esophageal plexus with the azygos veins, the veins of the cæcum and colon with the internal mammary, the hemorrhoidal with the hypogastric, those in Glisson's capsule with the veins of the hepatic ligament, and the vein of the round ligament with the epigastric veins. In rare cases further collateral circulation exists, due to the congenital nonclosure of the umbilical vein. This dilates and furnishes an anastomosis with the internal mammary, epigastric, and cutaneous veins. There is some discussion as to whether this latter collateral circulation is established by the dilatation of the umbilical vein or of a vein in the round ligament (Sappey). Whichever the cause, the result is that a more or less circumscribed dilatation of the superficial abdominal veins, known as the caput Medusæ, in

the neighborhood of the umbilicus, sometimes occurs.

Diffuse dilation of the veins of the abdominal surface is quite common. This is caused by the pressure of the ascitic fluid on the vena cava, and is also found with ascites from causes other than cirrhosis of the liver. The ascites of cirrhosis usually begin early and constantly increases. It is not a constant symptom. Cases of cirrhosis may terminate fatally without showing ascites at any time. This is shown by the statistics of Lange, who records that of 115 fatal cases of cirrhosis, 65.6 per cent. never had any ascites. This means that in the majority of these cases there was sufficient collateral circulation to compensate for the obstruction in the liver. The degree of compensation, of course, differs according to the anatomical condition present. It must be remembered that the amount of demand made upon the collateral circulation differs. It is only when the balance between the amount of demand exceeds the degree of compensation that the circulatory balance is destroyed and ascites and other distressing symptoms of interference with the portal circulation develop. Such symptoms are due to congestion of the circulation in the intestines and stomach.

Spontaneous cure of ascites due to cirrhosis of the liver is rare. In these cases an autopsy has shown that adhesions containing well developed blood vessels existed between the liver, spleen, omentum, intestines and the diaphragm and anterior abdominal wall, thus allowing blood from the portal system to enter the general circulation without passing through the liver.

*Thus it is seen that it is extremely important to maintain the balance of circulation as long as possible, and in case the balance does become disturbed, to restore it as soon as possible.*

It is to this problem that we must direct our most earnest thought. Just as soon as the balance of the circulation is destroyed, and medical measures have ceased to be effective, just so soon should surgical treatment be called into play. It must be borne in mind that surgery is not expected to cure the disease, but to alleviate the sec-

\* Read before the Verein Deutsche Aerzte von Brooklyn, March 10, '05.

ondary lesions. But if rigorous medical treatment is not sufficient to control the disease, surgery should be used to help in the control. If, after several tapplings, the ascitic fluid reaccumulates, thus showing that Nature's limit has been reached in supporting the portal circulation, surgical aid should be invoked. Surgical interference consists in the establishment of an artificial collateral circulation, and as some time must elapse before this can become of material benefit, the operation should be performed before the patient has become much weakened. In addition, in spite of what has been said by others, I believe the operation, when thoroughly performed, to be one accompanied by considerable shock. For this reason it should not be delayed until the patient's vital resistance is so lowered as to render him an easy victim to shock. It is for these reasons that I believe that no more than three tapplings should be done. These tapplings must be thorough. As nearly the entire amount of fluid as possible must be withdrawn. Should reaccumulation of the fluid occur, operative interference should be instituted at once. A further reason for not delaying operation is that these cases, when unoperated upon, invariably die within a few months following the appearance of the ascites.

Talma first suggested operating in cases of cirrhosis of the liver with ascites. Morrison and Drummond also devised the operation and practiced it without being aware of Talma's suggestion. Morrison was the first to operate successfully upon such a case.

The operative procedure which I have employed is as follows: After the usual preparation of the patient for anesthesia and abdominal section, the abdomen is tapped some hours before the time set for the operation, preferably the night before, and as much fluid as possible drawn off. This relieves the respiratory embarrassment and so conduces to a safer anesthesia. The patient having been anesthetized the abdomen is opened by a median incision reaching from the ensiform cartilage to half way between the umbilicus and the pubes. The edges of the wound are widely retracted and the peritoneal cavity thoroughly dried. Every particle of fluid is sponged away. This is not done gently, but roughly, with large, coarse laparotomy pads. It must be remembered that the purpose of the operation is to promote adhesions. Even after thorough tapping several pints of fluid will be found in the pelvis and scattered through the abdominal cavity. The

peritoneum is scrubbed with a crash sponge. The upper portion of the liver is scraped with a scalpel, as is also the peritoneum covering the diaphragm. The freshening of the surfaces is completed by going over them roughly with a small piece of crash toweling grasped in a stick sponge holder. The surface of the spleen is likewise abraded, but not as roughly as the liver surface.

The next step consists in shortening the round ligament of the liver, by taking pleats in it, and suturing it to the parietal peritoneum and rectus muscle. This holds the liver in closer apposition to the diaphragmatic peritoneum. To make the approximation more complete, the anterior edge of the liver is sutured to the parietal peritoneum. All sutures are interrupted, and of chromic catgut in round needles. Following this, one edge of the wound is widely retracted, and the omentum is sewn to the parietal peritoneum in a line across the abdomen and up to the wound margin. The same procedure is carried out on the opposite side. The first sutures placed are those furthest from the wound. The peritoneum is again dried, and the wound closed with cross sutures of silk worm gut, fastened through rubber bolsters. The skin is sutured with a continuous chain-stitch of silk. The subsequent dressing and treatment is that usually employed in laparotomy cases in which the intestinal canal has not been invaded.

During the after course it may happen, and probably will happen, that there is a reaccumulation of fluid. Some operators have reported cases in which tapping was necessary. This is explained by the fact that the artificial collateral circulation is not established at once, but takes some little time to be effective.

As to the curative effect of the operation, even with the additional blood channels formed as a result of the operation, only about one-third of the cases, according to Greenough, remain free from ascites. Greenough's statistics show 60 per cent. of failures, these being about equally divided between those who died as a result of the operation and those who were not improved by it.

Beyond the relief of the portal congestion, no further curative effect upon the cirrhosis can be expected.

Among the dangers of the operation should be classed the risk of auto-intoxication from the diversion of a certain amount of blood from the mesenteric veins into the general circulation, as shown by the experiments of Ech, Hahn, and Tillmanns.

## RESULTS IN CIRRHOSIS WITH ASCITES.

Rutherford Morrison (*Annals of Surgery*, Sept. 1903) reports one successful case (3½ years elapsed).

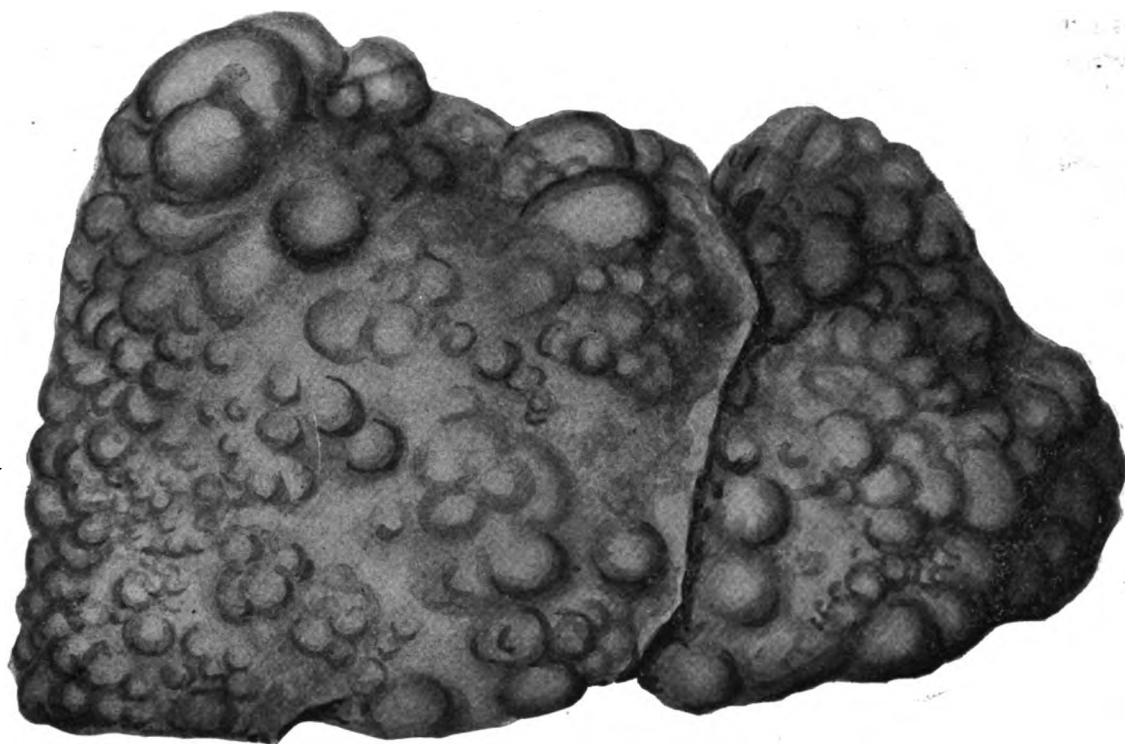
Barnham (*Medical News*, March 5, 1904) reports a successful case of epiploexy (six months elapsed).

Sinclair White (*British Medical Journal*, Oct. 10, 1903) reports two successful cases treated by epiploexy (1 year elapsed).

Koslmski (*American Medicine*, April 23, 1904) tabulated 168 cases of epiploexy. He finds 46 per cent. cured or improved, 49 per cent. unimproved (in 5 per cent. the results are unknown). He thinks that early operation should show 50 per cent. of cures.

## CASE NO. I. HYPERTROPHIC CIRRHOSIS WITHOUT ASCITES, WITH DISPLACEMENT OF THE LIVER.

F. M., housewife, Italian, aged 35 years, was referred to me by Dr. Pandolpho, August 17, 1900. She had borne six children. She gave a history of moderate indulgence in alcohol. There was no history of syphilis or malaria. She complained of dragging pain in the upper abdomen with tenderness, and disturbances of digestion. No jaundice. Examination showed good condition of general health; lungs normal; heart, slight systolic murmur at the apex; a very lax abdomen; kidneys in normal position; spleen somewhat enlarged; the entire liver, much en-



BOTRYOID LIVER.

Sketched from nature by F. A. Deck.

M. L. Harris (*Journal American Medical Association*, Oct. 31, 1903) adds 4 cases to the 2 he has already reported of Talma's operation. Of the 6 cases, 5 died within 1 month, 1 was alive, but unimproved, 5 months after operation. (All these cases were advanced cases). In 105 cases collected by Greenough only 9 showed improvement after 2 years. (Harris).

Brewer (*Medical News*, Feb. 8, 1902) collected the cases reported during the preceding five years. These showed a mortality of 37 per cent., with 10 per cent. of cures, and 20 per cent. of cases markedly improved.

larged, was displaced downward, the upper surface about three inches above the umbilicus, the lower border just above the symphysis. This became more prominent when the patient strained. There was some tenderness over the liver surface. The liver could be replaced in its normal position with some difficulty.

Four days later I operated upon her at the Brooklyn Hospital. The abdomen was opened by a three-inch incision through the right rectus muscle. The surface of the liver was "hob-nailed," the spleen somewhat enlarged, the intestines, stomach and gall bladder were normal.



The upper surface of the liver was scraped with a scalpel, as was also the peritoneum covering the diaphragm. The right lobe of the liver was enormously enlarged, the left lobe markedly enlarged. The round ligament of the liver was shortened with chromic gut sutures, and sutured in the abdominal incision with the same cross sutures which closed the wound. Healing was *per primam*, and she left the hospital on the twenty-first day, wearing a snugly fitting abdominal binder. She was instructed to wear such a support for several months. She remained well for one year, when the digestive disturbances returned. She was treated medically for some months, but finally as she had experienced such marked relief from the first operation she was referred again to me. I found the liver about half the size it had been seventeen months before, but still larger than normal.

It was more movable than normal, but not nearly so movable as before, though it could be pushed to the level of the umbilicus. Her general condition was good. I opened her abdomen for the second time at the German Hospital, January 17, 1902. This time I made a seven-inch incision. The liver was found not to have established any adhesion to the diaphragmatic peritoneum, nor were there any other peritoneal adhesions. The liver was about half again the normal size. The spleen was in the same condition of moderate enlargement as found at the first operation. In the mesentery of the small intestine were found a few small deposits such as are found in tubercular peritonitis cases, but a further search of the peritoneum revealed no other evidences of tuberculosis. There was no peritoneal fluid. The liver was supported solely by the round ligament which had been previously shortened, but which had stretched somewhat since the first operation. The surface of the liver had lost its former marked "hobnail" appearance and was fairly smooth. The surface of the liver was again scraped with a scalpel, as was also the diaphragmatic peritoneum. The round ligament was further shortened and the free edge of the liver sutured with chromic catgut to the anterior abdominal wall. The omentum was sutured across the abdominal wall with interrupted chromic gut sutures. The abdominal wound was closed with crossed silkworm gut sutures, the upper two of which included the shortened round ligament. She left the operating room in good condition with a pulse of 98°. That night her temperature became subnormal

and her pulse very rapid, and she collapsed. Examination of the wound dressings showed them to be soaked with blood. She was taken to the operating room and the wound partially reopened. The bleeding was found to come from a punctured vein in the omentum, directly beneath the lower part of the wound. The bleeding point was ligated and the wound closed with crossed sutures of silk-worm gut. The further course of the case was uneventful. She left the hospital on the twenty-sixth day, wearing an abdominal support.

*Subsequent history.*—The patient remained well for 18 months. She had become pregnant in the meantime, and September, 1903, was delivered. A few weeks after delivery she noticed a dragging pain in the left flank and a slight recurrence of the discomfort across the upper abdomen in the liver region. This persisted until January, 1905, when the abdomen began to enlarge and she began to be very constipated. In the same month she had slight chills and fever. Her general health remained good until January 1, 1905. This was the history she gave me March 9, 1905, the first time I had seen her since her discharge from the hospital. This last examination disclosed a considerable increase in the size of the abdomen, the abdominal wall was soft, the intestines much distended with gas, the bowels constipated. There were several areas of tenderness, one over the spleen which was markedly enlarged, one in the left iliac region where a mass could be felt about the size of the fist and smooth, and one to the left of the umbilicus where several knuckles of small intestines seemed matted together. The uterus was enlarged. She had not menstruated for four months. The edge of the liver could be felt two fingers' breadth below the free border of the ribs. The liver was tender. The left lobe was much enlarged. There were several large veins on the abdominal surface. The heart and lungs were normal. I believe her now to be suffering from a tubercular peritonitis, complicating the cirrhosis of the liver.

CASE NO. II. SYPHILITIC HEPATITIS (BOTRYOID)  
LIVER) WITH ASCITES.

J. F., shoemaker, Italian, aged 25 years, was seen in consultation with Dr. Accetta, Sept. 9, 1903. He gave the following history: Three years before he had a chancre, for which he received six months' treatment. He had never had malaria. For five years he had been a hard drinker and smoker. His present sickness dates back about one year. It began with an aching

pain over the upper abdomen and occasional vomiting. The pain increased in severity, and the vomiting increased in frequency. Six months later he developed ascites, moderate at first, but now rapidly increasing. My examination showed the heart to be normal, the lungs to be normal, except for slight dullness at the left apex, the liver to be somewhat smaller than normal, the spleen was not made out, the abdomen enormously distended and filled with fluid, the superficial abdominal veins dilated, edema of both feet, urine normal, temperature 99° F., pulse 80 and weak. The man was much emaciated. I diagnosed cirrhosis of the liver and advised operation, which I performed two days later at the Brooklyn Hospital.

Under ether anesthesia, an incision was made from the ensiform cartilage to the umbilicus. This allowed the escape of an enormous quantity of ascitic fluid, bright yellow in color. The liver was found in a condition of atrophic cirrhosis, of the type known as botryoid liver, the final stage in a hepatitis of syphilitic origin (see illustration). The liver showing beautiful blue and purple coloring, with tinges of red, exactly resembled a huge bunch of grapes. The spleen was about three times its normal size. The technique already described was carried out, with the exception of suturing the liver to the abdominal wall. A second row of sutures was used in suturing the omentum to the abdominal peritoneum, in order to secure broader approximation.

The patient left the table in fair condition. After twenty-four hours there was considerable oozing of ascitic fluid through the wound. In spite of this, healing progressed favorably for the most part. On the second day following the operation the temperature rose to 102.4° F., pulse 120, respirations 35. Examination of the chest showed physical signs of pneumonia. This resulted fatally thirteen days after the operation. Post-mortem examination showed slight peritoneal adhesions as a result of the operation.

#### CASE III. ALCOHOLIC CIRRHOSIS OF THE LIVER WITH ASCITES.

Mr. C., aged 56 years, U. S., consulted me Aug. 1, 1904. He gave the following history: He had used alcohol daily in small amounts for years; has never had syphilis; had jaundice in 1864; no illness since then until one year before consulting me. At that time he had mild chills and some fever, with stomach distress. This was called malaria, although no examination of the blood was made. The chills and fever were of

a few weeks duration, but the stomach distress, with gradual emaciation, continued to increase until May 1, 1904 when he noticed that his abdomen was increasing in size. This increased rapidly and when I saw him the abdomen was enormously distended with fluid. He had noticed edema of the feet shortly after the abdomen began to enlarge. My examination showed the heart, lungs and kidneys normal, the liver about the normal size, and the spleen somewhat enlarged. He was much emaciated. I advised him to place himself under my care at the Brooklyn Hospital. There I tapped him thoroughly three times in three weeks, the fluid each time reaccumulating rapidly. He was also treated medically. On August 24, 1904, I opened his abdomen by an incision reaching from the xiphoid cartilage to half way between the umbilicus and the pubes, and carried out in its entirety the procedure described in this paper. The liver was found about the normal size, the surface somewhat hobnailed, but not markedly so; the spleen somewhat enlarged; the other viscera normal. The omentum was somewhat shorter than normal, and quite thickened. The omental veins and the veins of the stomach and mesentery were enlarged. There was considerable shock following the operation. There was some return of fluid during the first week, but this had disappeared two week later. At no time did any fluid escape from the wound. During the second week a hypostatic pneumonia occurred. In the treatment of this the patient was kept in a sitting position. The pneumonia was not severe, and cleared up in ten days. He was discharged from the Hospital September 28, 1904.

*Present Condition.*—March 3, 1905 (7½ months after operation). There is marked increase in weight. General health good. He has had no alcohol or meat fibre of any kind since August 1, 1904, but has eaten everything else. There has been no return of the ascites. He expresses himself as feeling in better health than he has been in for years. The abdominal scar presents two very small weak spots, one between the umbilicus and ensiform, the other at the umbilicus. These do not cause any disturbance.

The Board of Health has asked for \$10,000 to defray the expenses in connection with the extermination of mosquitoes on Staten Island. The question of exterminating the pest was discussed pro and con by the Board of Estimate, April 28, 1905. The appropriation was laid on the table, no action being taken.

**A CLINICAL STUDY OF ABSCESS OF THE LUNG.\***

BY W. H. RANKIN, M.D.

We find the first recorded history of lung abscess in the works of the father of medicine, and Hippocrates, in his aphorism, "when empyæma is treated either by the cautery or incision, if pure and white pus flow from the wound, the patients recover, but if mixed with blood, slimy and fetid, they die," seems to have been the monitor to the medical world for many centuries. Not until 1664 do we find record of any physician exhibiting a deliberate purpose of opening a thorax to evacuate an empyæma, and that honor belongs to Baglivi, who thus drained an abscess following a sabre thrust in the lung.

However, it was not until Gluck, Biondi and Schmidt (in 1882) showed by experiments on animals that operations on lung tissues were well borne that surgeons felt justified in undertaking extensive operations in this region. Since that time the subject has received a great deal of attention, and much has been written, and many instructive cases reported. Among those most active in the field have been Bull, Park, Tuffier, Quincke, Murphy, Godlee, and Runeberg.

Empyæma of the lung frequently differs from abscess elsewhere in the body, in that the parts surrounding the tissues to be expelled are usually normal in other organs, while in the lung a large portion, often an entire lobe, may be the seat of another disease, the abscess being formed later in the infected part. Clinically, therefore, it is well to distinguish between abscesses occurring in inflamed tissue and those that develop in previously healthy tissue. As examples of the first variety we have those that occur in lobar pneumonia and acute desquamative pneumonia. Here the exudation of leucocytes at certain points, or in a single circumscribed area, are not confined to the alveoli, but also affects the inter-alveolar tissue, total softening and separation of the tissue may take place, and an abscess formed.

Other varieties of pulmonary empyæma develop in previously healthy lung tissue. In this class we have those resulting from infected thrombus, from the veins in the abdomen or lower extremities being carried into the lungs through circulation. Aspiration of foreign bodies or fluids not infrequently cause this lesion. Pus from the abdominal cavity may burrow upwards

through the diaphragm into the lung, there causing an abscess. These are known as perforating abscesses, and arise from abscess of the liver, subphrenic abscess, disease of the appendix, or pus formed from perforation of the stomach or intestines, or as the result of malignant disease. Empyæma of the pleural cavity may perforate into the lung, and caries of a rib or the spine, or suppuration of bronchial glands may cause an abscess that will seek drainage through the lung. Once the lung tissue is invaded by pus, or commences to break down, the fluid increases, the air cells are destroyed or compressed, leucocytes are thrown out in the surrounding lung tissue, there is proliferation of the cells in the inter-alveolar tissue, interstitial thickening and fibrosis, forming after a little time a strong, firm abscess wall. Whether the fluid originates from a pneumonia or a pulmonary embolus with its infarct; or from pus burrowing into the lung, it must find some way of escape from the thorax, or cause the death of the patient. Nature here, as elsewhere, sometimes affords the all-important relief, but only imperfectly. Should the pus rupture into a bronchial tube, and the abscess be small and favorably situated, the drainage may be sufficient to bring about a complete cure if the cavity can contract down on to the bronchial opening.

But just here came in the difficulty. Frequently lung tissue gives way with surprising rapidity, and a large abscess may be formed in a very few days. If it finally ruptures into a bronchial tube, it cannot contract sufficiently to close the cavity, consequently we have a bronchiectasis with thick firm walls. While the patient has escaped the immediate peril, the constant irritation of the bronchial tube by the escaping pus subjects him to an exhausting disease and great discomfort.

The space left in the thorax must be filled up. In part this is done by drawing in of the lung, separating it from the chest wall or parietal pleura, by drawing up the diaphragm, by drawing over the heart and mediastinum, and by producing over-distension (hypertrophous emphysema) in any air cells in the surrounding tissue capable of being inflated. But in yet another way (and this is the more serious matter) the space is filled by drawing outward the walls of the bronchial tubes, and thus producing a further bronchiectasis.

The organisms concerned in the pus formation are the pneumococcus, the streptococcus, the colon bacillus, the influenza bacillus, and Fried-

\* Read at a meeting of the Associated Physicians of Long Island, January 28, 1905.

lander's pneumonia organism. It is well to bear in mind that some of these may produce either gangrene or abscess, and it is said the influenza bacillus produces gangrene of the lung in seven per cent. of the cases of pneumonia from that cause.

Of the cases of abscess or gangrene (which is extremely liable to break down or form an abscess) from all causes, about eighty per cent. occur in the middle of lower lobe of the lung.

The classification of these lesions as given by "Quincke"—

Acute Simple Abscess,

Acute Gangrenous Abscess,

Chronic Simple Abscess,

Chronic Putrid Abscess, with bronchiectasis, is practical and agrees closely with the clinical characteristics of the different cases.

*Symptoms.*—The symptoms of pulmonary empyæma will of course vary with the cause. In those resulting from pneumonia we have the history of that disease. Usually there is an apparent crisis, the temperature falls for a day or so, but the physical signs do not much improve. The temperature will probably again rise and the curve be less characteristic of pneumonia. Should the abscess be large, the respirations become quickened, and the effort in breathing becomes more voluntary, the face taking on the expression of one who has undergone physical exertion for some time. The cough becomes more fatiguing from day to day, and sleep is much broken by it, but unless there is a developing gangrene there is very little expectoration. On percussing the chest, the area of dullness will not have diminished perceptibly, and if the abscess be anywhere near the surface the percussion note may become quite flat. With the stethoscope we usually find diminished breathing everywhere near the diseased area, and the sounds are those of bronchovesicular or bronchial breathing, which may become metallic in character, and a few coarse râles. Should the abscess be small or situated deep in the lung the physical signs become less satisfactory; but patient examination from day to day, finding continued absence of normal respiratory sounds in the suspected area, with hyperresonance and increased vesicular breathing in the surrounding area, should strongly fortify one's suspicions of an abscess.

Occasionally the percussion note will change from time to time. An abscess may rupture into a bronchial tube and partly drain away, thus changing dullness to hyperresonance, or the air

cells around the cavity may become inflated, as in hypertrophous emphysema, but heavy and light percussion will in a measure eliminate this source of error. The vocal resonance will be increased in the congested area, but lost over the location of the fluid. Sometimes the restriction of the respiratory movements over the affected side is most marked. Pain is usually not severe, even though the pleura be involved, because of the restricted movements of the lung and the local character of the pleurisy.

In all cases there is emaciation, anorexia and rapid decline in strength. If the expectoration becomes profuse and the odor disagreeable there can be little doubt we have to do with a gangrene or a lung abscess.

*Diagnosis.*—In diagnosis the history of the case is of the greatest importance, especially if pneumonia has preceded the onset of gangrene or abscess. Should gangrene of the lung develop, the expectoration becomes profuse and separates in three layers on standing in a receptacle. The odor is particularly offensive. The spit contains some elastic fibers and a few small blood clots, or the fluid may be streaked with blood. If there is a pulmonary abscess developing, there is not much increase in the quantity of expectoration, and it contains numerous elastic fibers. When the pus ruptures into a bronchial tube the expectoration is suddenly profuse and *gushing* in character, and contains small particles of gangrenous lung tissue with some small blood clots. The odor is not so intensely disagreeable as in the case of gangrene. In bronchiectasis we have the history of cough with profuse expectoration that has lasted for some time and a history of an acute illness, either a pneumonia or an empyæma having preceded it by several weeks. The spit is not so offensive as in gangrene or abscess, but has a musty odor, more or less perceptible as the disease progresses.

A tubercular lung may have much the same physical signs, especially in the case of acute pulmonary tuberculosis, but the presence of the bacillus of the disease and the greater frequency of tuberculosis in the upper part of the lung will greatly aid in eliminating it from consideration.

In the second variety of lung abscesses, or that occasioned by pus penetrating the lung from its outer surface, we have the history of a disease elsewhere that has been recognized and run a course of some little duration. Perhaps we should exempt from this statement subphrenic abscess and suppuration of the bronchial glands.

In either locality pus may form without occasioning any symptoms that a patient might observe and the first evidence of the disease would be the onset of pulmonary symptoms.

As I have mentioned, abscesses may be single or multiple, and about eighty per cent. of them form in the lower part of the lung. Many may be near the pleural surface of the lung, or indeed, complicated with pleurisy and empyæma in the pleural cavity. Should this be so it would be impossible to differentiate between such an empyæma and a lung abscess. It is my belief that the outer wall of the inflamed lung surrounding the pus is seldom far from reaching the pleura, and so often involves it that the pleural cavity corresponding to the diseased area in the lung very frequently contains a small quantity of fluid that is walled off by the adhesions between the lung and parietal pleura. In one case that came under my observation there were two separate abscesses in the same lung; one in the lower lobe and the other in the upper lobe, and each of which had a well walled pleural cavity that contained very little fluid.

As an aid in clearing up the diagnosis in lung empyæma we may use the X-ray, but it is not entirely to be depended upon, for, unless the tube is directly over the abscess the shadow on the plate may be misleading. Should the abscess have ruptured and the cavity contracted and the heart drawn over, the X-Ray could be of little service and it would be quite as misleading in the case of an aneurism of the aorta. If the clinical evidence of an abscess persists, there can be little harm in excising a piece of rib and undertaking a systematic search for it with an aspirating needle.

**Prognosis.**—There can be no doubt some cases recover with medical treatment, but it is seldom that the drainage through the bronchial tube is sufficient, or sufficiently prompt, to avoid the extensive destruction of lung tissue. We then have on the one hand the rapid breaking down of the soft lung tissue, or, on the other, with the delayed evacuation of the fluid, a thickened, fibrous abscess wall that is slow to contract. It is clear, therefore, that the pus should be evacuated after a diagnosis can be satisfactorily made.

It is unfortunate that we have no statistics of the results from medical treatment alone, but it is not difficult to imagine the fate of a majority of cases left to time and good Dame Nature. Of the cases surgically treated, we have now the compilation of some statistics that are very in-

structive and lend abundant encouragement to those who would be watchful and operate early. The statistics of results after operation as given by Quincke, Tuffier and Eisendrath are as follows:

#### QUINCKE.

|  | Recovered. | Imp. | Died. | Per Cent. |
|--|------------|------|-------|-----------|
| Acute simple abscess.....                          | 6          | ..   | 1     | 85-15     |
| Acute gangrenous abscess..                         | 7          | ..   | 6     | 53-47     |
| Chronic simple abscess and<br>bronchiectasis ..... | 1          | 5    | 2     | 12-60-24  |
| Chronic putrid abscess and<br>bronchiectasis ..... | 4          | 7    | 8     | 21-36     |

#### TUFFIER.

|   | Recovered. | Imp. | Died. | Per Cent. |
|---|------------|------|-------|-----------|
| Acute simple abscess.....                           | 14         | ..   | 4     | 77-23     |
| Acute gangrenous abscess.                           | 39         | ..   | 15    | 70-30     |
| Chronic simple abscess....                          | 3          | ..   | 2     | 60-40     |
| Chronic putrid abscess with<br>bronchiectasis ..... | 1          | ..   | 3     | 25-75     |

#### EISENDRATH.

|   | Recovered. | Imp. | Died. | Per Cent. |
|---|------------|------|-------|-----------|
| Acute simple abscess.....                           | 24         | 1    | ..    | 96-4-0    |
| Acute gangrenous abscess                            | 20         | 2    | 6     | 71-7-22   |
| Chronic simple abscess....                          | 6          | 3    | 5     | 43-21-36  |
| Chronic putrid abscess with<br>bronchiectasis ..... | 13         | 4    | 9     | 50-15-35  |

The cases reported by Eisendrath all followed pneumonia, and were collected during the past few years, and show a marked increase in the percentage of recovery.

**Treatment.**—The efforts to combat gangrene of the lung and the formation of abscess by carbolic acid and other antiseptic inhalations, and intralaryngeal injections, do not seem to have been rewarded with much success. It would seem reasonable to suppose that the increased respiratory effort in the non-diseased portion of the lung would draw the antiseptics away from the inflamed area rather than in that direction. Then if we are to resort to operation, how long shall we delay after the nature of the disease has been definitely made out?

This must somewhat depend on the size and location of the abscess and the condition of the patient. If the fluid is in the upper part and deep in the lung, the abscess be small, and the patient in fairly good condition, then waiting for three or four weeks would be justifiable. But if the pus is in the middle or lower part of the lung, where drainage would be more favorable, operative procedures should be promptly undertaken.

In performing thoracotomy and pneumotomy, two objects should be kept in mind: the first to remove sufficient of the rib to enable you to explore the pleura and get free drainage, and the second to make your opening in the lung, if possible, in such a position that the cavity in the lung may be explored after the pus is evacuated.

This is an important point, for frequently there is a sequestrum of gangrenous lung in the abscess cavity, which, unless it is removed, will cause the discharge of pus to continue for several weeks, and so convert an acute case into a chronic one. In draining a chronic abscess, it is necessary to remove a part (three inches) of a sufficient number of ribs to allow the chest wall to collapse on to the lung, else it will be difficult to introduce your drain into the lung, as it recedes from the parietal opening.

As the pleural cavity over the site of the inflammation is very frequently walled off, little attention need be given to it, so long as your drainage is well established. Should there be no adhesions of the pleural surfaces, I believe it is quite sufficient to gently pack iodoform gauze around the opening you purpose making in the lung. Some advise suturing the pleural surfaces before opening the lung, while others resort to caustic application to the pleural surfaces to bring about adhesions before the lung is opened. This I believe is quite unnecessary. After we have established drainage, the question of irrigating the cavity is to be considered. If the abscess contains considerable pus, and is of large size, there is always the possibility that a bronchial tube may communicate with it, in which case irrigation would be dangerous. The irrigating fluid may be drawn into the bronchial tubes, and from there aspirated into the air cells, setting up septic pneumonia. By waiting a few days, until the cavity can contract down, it ought to be fairly safe to employ irrigation.

In acute cases the choice of an anesthetic and the technique of operating may vary with different surgeons, but it is well to remember that with a little courage on the part of the patient, thoracotomy can be rapidly done by blocking the nerves with cocaine, and the pain quite easily borne. In pleurotomy and pneumotomy there is very little pain; and by avoiding the use of gas or a general anesthetic, after an exhausting disease, such as pneumonia, the dangers of the operation are very materially diminished, both by avoiding the anesthetic and from the possibility of pneumothorax. By this method of procedure the pus can be evacuated, the cavity and pleura rendered clean, the patient's strength restored for a later general anesthetic, when an accurate estimate of the extent of rib resection necessary to allow the chest wall to collapse on to the lung, and so obliterate the lung and pleural cavity.

Finally, it is well to keep in mind that by a timely operation we shorten the period of illness,

increase the patient's chance of recovery, avoid the formation of bronchiectasis and the displacement of the thoracic contents.

#### A CASE OF CESOPHAGEAL POUCH.\*

BY WALTER C. WOOD, M.D.

The patient shown to-night is Mrs. L., 53 years of age, normal weight 115 lbs., married, 3 children, youngest 19 years old.

When 30 years old she had pericarditis, apparently primary in nature. This prostrated her completely for several months, and required a year of rest and care. She seemed to have made a perfect recovery. With this exception, she enjoyed excellent health until her 40th year, 1892, when the present illness commenced.

While eating a meal she suddenly felt a pressure sensation in her neck,—“a grip in her throat”—as she describes it. This lasted a few moments and then subsided. The attack was repeated twice within the next few days, and then an intermission occurred that was four months long. Then the attack returned and came every few days during the remainder of the first year. These attacks of throat pressure were all practically alike, and were the only symptoms now recalled by the patient as being present at that time. During the second year she had a continuation of the attacks, and in addition, nearly every day, expectorated frothy mucus amounting to a cupful or more. In the intervals between the attacks, she had no trouble in eating. At the latter part of this year, she began to vomit solid food and for four months lived on predigested milk, during which time she became reduced in weight to 85 lbs., and very weak. Then without apparent cause she found that her power of swallowing food had returned, and for two years there were long intervals of entire freedom from all symptoms, interspersed with mild attacks of the early type.

In the fifth year the symptoms returned, although she still had some days of comfort. From this time on she had been annoyed by eructations of fetid gas, at times of very pronounced odor. Frequently the neck would swell up quickly, so that she would be obliged to loosen her dress, or even cut it. This swelling was due to gas between meal times and also to food during eating. It would subside on eructation, or vomiting. On

\*Read before the Brooklyn Surgical Society, February 2, 1905. For discussion, see page 210.

some occasions she would vomit mucus only, and on others food recently taken, or some that was recognizable as having been eaten several days before. This food was either unchanged, or more or less decomposed. She would begin her meal in comfort, and perhaps continue to swallow in a normal way. Or she would find the pressure increasing slowly, the swelling appearing in the neck, and at last an inability to swallow any more. She would leave the table, and, if in much distress, would bring on vomiting by inserting her finger, or if the condition was less acute she would take a full glass of hot water. Some food would then pass into the stomach and some be vomited. After relieving herself in one of these two ways she might be able to swallow well, or the whole process might be repeated. During the later years, the point of the greatest distress, or pressure, has often been below the clavicle—in the thorax and not the neck. During the seventh year, she had a very severe attack, and being unable to induce vomiting, was seized with alarming dyspnoea. This nearly proved fatal, but at last subsided, when a large piece of meat was ejected followed by free vomiting. During the next four years, she had but four of the very severe seizures with dyspnoea, but the ordinary attacks came with increasing frequency, so that they occurred at least once daily.

In the first week of November, 1902, she had a severe attack at breakfast, with choking and dyspnoea lasting half an hour with marked intensity, then partially relieved by vomiting, but continuing with severity all day. After that time, she could swallow but very little. A raw egg, or a little fluid, would occasionally reach the stomach. She lost rapidly in weight and strength, and soon was confined to bed by reason of weakness. She was nourished by enemata for a month. Then an increasing irritability of the rectum developed. Bougies could not be used to examine the condition of the oesophagus, for dyspnoea of spasmodic type followed any such manipulation.

December 1st., 1902, through the kindness of Dr. H. W. Lincoln, I saw her for the first time, and from the history was able to make a diagnosis of pulsion diverticulum or pressure pouch of the oesophagus. Such a history seemed to be positive proof of this condition without corroborative physical examination, which the low vitality of the patient and her liability to frightful dyspnoea did not permit. During her ten years of suffering, she had received many different explanations to account for her condition, and many plans of treatment. Five years previously, Dr. T. R.

French had made a diagnosis of diverticulum. That others had not done so, seems to show that the infrequency of the disease has not made the profession here acquainted with its characteristic picture.

Immediate relief being urgently demanded to avoid death by starvation, I did a gastrostomy on December 4th, 1902, at her home.

The method followed was that of Witzel, with two slight modifications, viz.: the intermuscular openings of the abdominal wall and the entire closure of the skin incision, with a separate opening for the emergence of the tube. These modifications aimed to decrease the liability of leakage. A three-inch incision was made through the skin parallel to, and about 1 inch from, the free border of the ribs. The muscles were separated without section of their fibres, the peritoneum opened and a small contracted stomach found. Part of its anterior wall was brought into the wound, and a  $\frac{1}{4}$ -inch incision made into the organ at the left extremity of the part protruding. Through this rectal tube 25 P. was inserted one inch, and stitched in place by a purse-string suture of chromic gut, that also perforated the wall of the tube. The stomach wall was then folded over the tube for about three inches in a horizontal direction, and held in place by two layers of chromic sutures. The stomach was then attached to the abdominal peritoneum, the muscles closed with the exception of a point for the exit of the tube, a short slit made in the skin about  $\frac{1}{2}$ -inch from the first incision toward the median line, through which the tube was brought out, and the original skin-wound entirely closed.

Four hours after the operation, feeding by the stomach was commenced. The nutrient enemata were continued for three days, when the rectum became completely intolerant, and nourishment thereafter was exclusively by the tube. Peptonized milk, 3 to 6 parts, and liquid peptonoids, 1 part, was the mixture used. After ten days the tube was removed, and inserted only for the feedings. At the sixth week, after being out of bed part of each day for two weeks she developed a marked bronchitis.

She received her medication for this attack through the tube. For several months after the operation, she continued to raise quantities of viscid mucus; a pint or more daily at first, and in decreasing amounts until it ceased entirely. There was, and still is, a tendency for the skin wound to contract, so that part of the time she uses between the feedings a short tube, an incin long, not reaching the stomach.



This is due to the method I used to increase the length of the canal. In previous cases done for malignant obstructions when the vitality of the patient was decreasing, I have thought that this method assisted in avoiding leakage and the tendency to contract has not been noted. In this patient, the extra precaution taken has caused a slight inconvenience and was perhaps not necessary.

During the last two years she has enjoyed excellent health, and being of a cheerful disposition by nature, has not been in the least depressed mentally. Her weight is normal and her vitality and endurance wonderful but perhaps a little below the average. She now feeds herself three times daily, taking a quart each time. The tube used is 32 or 34 F. in size. Being a firm believer in a mixed diet, she uses cereals, eggs, soup, chopped meat, bread, vegetables, fruits and various fluids. She takes from ten to thirty minutes for a meal, and all the food is passed through a sieve. Her feeling of hunger is entirely relieved and after feeding herself, she has no desire for the taste of food. There is no leakage of food or gastric juice. Occasionally she has experimented by eating a few mouthfuls. She says it does not reach the stomach, is always expelled after a day or so in a more or less decomposed state, and a bad breath with discomfort always follows. Except for the loss of social intercourse at the table, she is well satisfied with her present condition.

During the last few years, a good deal has been written on the subject of pressure diverticuli and certain facts are now well established. As Maylard, Butlin and others consider that some of these cases are overlooked, it may be well to review some of their features.

In 1883, Lannier first described a triangular area on the posterior wall of the upper part of the oesophagus, where for 3 C.M. the external longitudinal muscular layer is absent. This point, at a level of the cricoid cartilage, about nine inches from the teeth is the almost constant location of the mouth of these pouches. From this point the pouch hangs downward, between the vertebral column and the oesophagus, and is apt to be displaced a little toward the left. In size they vary from that of a small pear to that of an infant's head. The lower limit may be well within the thoracic cavity. The quantity of the vomited material indicates the size, and probably the point of greatest pressure indicates fairly definitely the lower limit, as these pouches are pear-shaped with the greatest diameter near the bottom.

When a patient has filled the pouch with a mix-

ture of bismuth, the X-ray has determined the size, location, and shape of the pouch. The size increases with time.

The mucous membrane lining the pouch shows ulcerated spots, sometimes over most of the area. These ulcerations have a fetid discharge at times. The mucous lining secretes abundantly, when irritated by food. When the returned contents of the pouch is examined by litmus paper, it may be found to be acid in reaction. Butlin reports two such cases. This has led to confusion, for the acid reaction was thought to prove a gastric source of the eruction. Dr. Lincoln made two examinations for acidity in this case. He found no lactic, nor hydro-chloric acid present, but a neutral reaction.

Butlin, who has seen 16 of these cases, says that there are three constant symptoms which make the diagnosis "so simple that no case ought to be overlooked."

1st. Return of fragments of food, not immediately, but many hours, or even a day or so, afterwards. (The case I report noticed that lettuce always returned without being changed, even after several days).

2nd. Gurgling of gas from the throat, either spontaneously, or when pressure is made on the neck low down.

3rd. Arrest of a bougie at about 9 inches from the teeth; the end of which may often be felt in the posterior triangle of the neck low down.

Von Bergmann gives the course of the development of the symptoms which agrees very well with the case reported.

1st. A pressure sense while eating.

2nd. An increase of mucus expectoration.

3rd. Vomiting of food taken several days before.

4th. Laryngeal symptoms causing cough, or dyspnoea, relieved by vomiting.

5th. On manipulating the side of the neck, gas or food is expelled into the mouth.

6th. A swelling in the neck, resembling a goitre, that is present one day and absent the next. That increases often during eating, and when it does so, interferes with swallowing.

7th. Fetid breath, with mild or moderate sepsis coming on in attacks.

8th. Bougie examination. Arrested about 9 inches down. Some days one can be passed into the stomach, and a second one into pouch. In some cases no examination can be made on account of laryngeal spasm.

Examinations with a laryngeal mirror is negative, but the opening has been seen by a new œsophascope. The recently developed method of X-ray and bismuth solution is probably of much value.

A case with autopsy, reported in *Medicine*, May, 1903, proves many of the statements already given, but is of special interest, in that the laryngeal cough, with the periods of mild sepsis and apparently gastric disturbance, with emaciation, suggested phthisis, although bacilli were absent, and no positive phthisical signs were found in the lungs.

Concerning methods of treatment, there may well be a difference of opinion. In considering this matter, we must assume that we have a condition that is very distressing and ultimately fatal, but with periods of remission of symptoms.

Dilatation has been attempted in many cases, and there is one cure reported. Some patients have been able to pass a stomach tube while holding the head backward, and thus feed themselves. Others have been able to swallow while lying down, on the right side, thus presumably the mouth of the pouch collapsing. Such results are exceptional.

Operative relief is usually urgently demanded, and the method must be gastronomy, or extirpation of the sac, or both.

Gastrostomy is certainly not the ideal plan of treatment, although it must be remembered that the operation, as done by modern methods, so as to prevent leakage, is a far more satisfactory procedure than the gastrostomy of former days. König recommended it as a preliminary operation in order to avoid feeding by the mouth, until the wound in the œsophagus had healed. It is surely indicated in cases unable to bear the more radical operation of excision. Such was the condition of Mrs. L. Should this patient, now that she is in excellent health, and has a gastric opening that is satisfactory, be subjected to excision of the sac?

Extirpation of the sac, as done by Von Bergmann, is as follows:

The sac is first washed out, to prevent food being aspirated during anæsthesia and consequent pneumonia. Incision is made along the inner border of the sterno-mastoid for its entire length, and the muscle retracted outward. In some cases it has been divided. The thyroid gland is retracted inward—Von Bruns has removed half the gland. Then a bougie is passed by the mouth into the pouch, which is thus iden-

tified. Enucleation is said to be generally easy, as is a hernial sac. Adhesions may, however, be present, and the sac torn. Having freed the sac, it is divided at its neck, down to the mucous coat, which is ligated, then cut away, or divided with the cautery, and the muscular layer carefully sutured. Many methods have been used to prevent leakage. None are uniformly successful, because there is no serous coat which can be relied upon to heal promptly. Great care must be taken to avoid constricting the œsophagus. The external wound must be closed only in part, for in the greater proportion of the reported cases, leakage occurred to some extent, at least, after the second or third day. The permanent insertion of a stomach tube is of doubtful value. Its pressure leads to necrosis. It is often difficult to pass. Some cases have done exceedingly well with it. Of the 27 cases collected by Lotheissen, 5 died.

In the *British Medical Journal* for July 11, 1903, Butlin describes six cases for whom he had done this operation, during the preceding four years.

The first case presented difficulty in closing the mouth of the sac. He could not pass a tube through the œsophagus from the mouth, so he passed it through the wound in the neck. The patient died from sepsis of the deeper structures of the neck on the seventh day.

The second case developed fistula on the third day, and the patient passed all the food swallowed out through the neck. There was a high temperature and increasing weakness, when he successfully passed a tube down from the mouth which was retained in place, and the patient thus fed made a recovery.

The third case healed completely in sixteen days, and was in every way successful.

The fourth case showed a leak on the fourth day. Wore a tube passed from the mouth for the next ten days, and was discharged from the hospital on the twentieth day; exact condition not stated but presumably well.

The fifth case was satisfactory.

The sixth was fed through a tube introduced through the wound, for two weeks, and on its removal the sinus healed.

The absence of all reference to the matter of rectal feeding seems strange.

The ultimate results in these cases, and in two others which he previously reported, were good. There was one death in the eight cases. It will be seen that this death and the dangerous symptoms, as well as the disagreeable features of a

retained tube in the mouth, would probably be avoided by a preliminary gastrostomy.

I would suggest the following plan of procedure in these cases.

An X-ray examination, with a bismuth mixture, to determine the size of the pouch. A large pouch extending into the thorax probably being more dangerous to remove than the smaller ones.

In the emaciated patients, a preliminary gastrostomy followed, if desired, by the removal of the pouch after an interval of some months.

In vigorous patients the radical operation.

### PURULENT OPHTHALMIA.\*

BY JAMES COLE HANCOCK, M.D.

The symptoms of purulent ophthalmia are so well known that there is no necessity for describing them. Concerning the causes, gonorrhea and trachoma are the important ones. It is stated by many that gonorrhea is always the cause of ophthalmic neonatorum, but for obvious reasons, this is often difficult to believe, although it must be admitted that it is not easy to understand just how a disease of such virulence may arise from a benign influence.

To be sure we do meet with a number of conjunctival inflammations, accompanied by more or less purulent secretion, but in these cases the secretion is not of a nature or amount to give to the disease a classical character.

This short paper has to do with the treatment of purulent ophthalmia in the infant and the adult.

The first step in the care of a case of ophthalmia neonatorum should be a careful examination of the cornea, and it is usually necessary to use lid retractors to get a good view. Given a well developed case there should be ordered constant applications of iced cloths or cotton pads for a period of three hours, followed by an hour's cessation, so as to prevent too long continued refrigeration of the cornea, and this procedure repeated so long as the discharge is copious. At least once, and sometimes twice, daily, the lids should be swabbed with a ten-grain-to-the-ounce silver nitrate solution. This application must be very thorough, the solution being brought into contact with as much of the lid as possible. The excess of silver should be wiped away, and care must be taken to prevent its contact with the cornea in case of opacity of that structure. It is well

to follow the application with a few drops of a salt solution. Argyrol ten per cent. should be instilled into the eye every hour or two, and, of course, the conjunctival sac must be kept as free of discharge as possible. The lids may be everted by the nurse, and the secretion wiped from the surface, but it has never seemed to me a good plan to have the nurse attempt to irrigate the sac, for fear of harm to the cornea. Much depends upon the nurse, however, for if the iced applications are not frequently changed they soon become warm, act as poultices, and are a great menace. If at any time haziness of the cornea appears, heat should immediately be substituted for cold in the treatment. Watchfulness, cleanliness, thorough applications of silver, and the use of a good antiseptic will result in a cure. It has been my good fortune to have never seen a properly treated case of ophthalmia neonatorum that did not result in complete recovery if taken early. At birth, a two per cent. solution of silver nitrate should be instilled freely into the eyes. This procedure is known as Crede's Method, and has reduced enormously the number of cases of ophthalmia neonatorum.

Purulent ophthalmia occurring in patients other than infants is naturally much more easily treated, although the results are not so uniformly gratifying. Here, instead of the iced cloths or pads of cotton, we may use the ice coil so long as the cornea remains clear, changing to hot water for the coil in case cloudiness appears. The applications of silver nitrate to the lids, and Argyrol to the conjunctival sac are indicated as in the infant. In most of the literature upon the subject it is insisted that a Buller's shield must be applied to the sound eye when only one is affected. This shield consists of a watch-glass fitted to an opening in a square of adhesive plaster, the latter being applied to the side of the nose and cheek in such a manner as to hold the watch-glass in position over the eye. Theoretically, this is a good idea, as the sound eye may be kept under observation, and is supposed to be protected from the discharge from the diseased eye. As a matter of fact, I have found that the discharge coming into contact with the plaster, is absorbed by it, and is very liable to be carried into the sound eye in this way. It seems to me that it is quite as well to make daily antiseptic applications to the sound eye, and to prevent its becoming affected in this way.

The physician should always warn all who are to come into contact with the case of the dangerous character of the discharge.

\* Read Mar. 7, 1905, at a meeting of the Long Island Medical Society.

**THE PELVIC CONDITION OF PRIMIPARAE WHEN  
THEY ARE DISCHARGED FROM THE  
PHYSICIAN'S IMMEDIATE CARE.\***

BY A. M. JUDD, M.D.

Realizing the responsibility resting upon one bringing a paper before this honorable Society for discussion, the author has endeavored to select a subject upon which little or nothing has been previously written and which may stimulate work along new lines.

Much has been written upon the subjects of immediate repair and repair within a few days after delivery, but the condition of primiparae at the period mentioned in this paper has not been described. With this end in view, I have examined within the last few months twenty-four pri-

miparae at what is considered the usual time a physician is justified in allowing them to leave his observation. This time is generally considered within two weeks from the time of delivery and, in tenement house practice, we all know it is usually within a week. The writer considers this period much too short on account of the various injuries to the genital tract which, although they may have been observed, have not been treated, and which result in delayed involution, may become the avenue of infection, and the scar tissue resulting therefrom diminishes the elasticity of the parts requisite for subsequent labors.

The cases are tabulated as follows: Including the age of the patient, presentation and position of the foetus, the duration of the first, second and third stages of labor, character of the labor, weight of the child, injury to the pelvic floor and

\* Read before the Brooklyn Gynecological Society, Mar.

3 1905.

**A**

| Case.  | Age. | Position. | Duration, 1-2-3.                 | Character.       | Weight of Child. | Perineum.   | Puerperium.                                  |
|--------|------|-----------|----------------------------------|------------------|------------------|---|--|
| 1....  | 19.. | L.O.A..   | 8 hr.—2 hr.—10 min.....          | Normal.....      | 8½ lbs..         | Slight internal tear.....                                       | Normal.                                      |
| 2....  | 19.. | L.O.A..   | 8 hr.—2 hr.—10 min.....          | Normal.....      | 8 lbs..          | External tear, requiring 2 sutures.....                         | Normal.                                      |
| 3....  | 20.. | L.O.A..   | 48 hr.—7 min.—no engagement..... | Version.....     | 7½ lbs..         | Tear in labia; 1 silkworm suture.....                           | Secondary anemia hemorrhage at time of labor |
| 4....  | 26.. | L.O.A..   | 48 hr.—8 hr.—10 min.....         | Slow.....        | 8 lbs..          | Normal.....   | Normal.                                      |
| 5....  | 21.. | L.O.A..   | 24 hr.—2 hr.—10 min.....         | Slow.....        | 4 lbs..          | Normal.....   | Normal.                                      |
| 6....  | 20.. | L.O.A..   | 3 hr.—1 hr.—10 min.....          | Normal.....      | 8 lbs..          | Laceration, external and internal sutures.....                  | Normal.                                      |
| 7....  | 26.. | R.O.A..   | 6 hr.—3 hr.—20 min.....          | .....            | 7½ lbs..         | Normal.....   | Normal.                                      |
| 8....  | 30.. | L.O.A..   | Precipitate.....                 | .....            | 5 lbs..          | External tear to sphincter, both sulci; 8 sutures.....          | Normal.                                      |
| 9....  | 25.. | L.O.A..   | 10 hr.—2 hr.—10 min.....         | Normal.....      | 9 lbs..          | Normal.....   | Normal.                                      |
| 10.... | 22.. | L.M.A..   | 3 hr.—½ hr.—10 min.....          | Normal.....      | 6½ lbs..         | Slight internal and external tear. 3 sutures.....               | Normal.                                      |
| 11.... | 26.. | L.O.A..   | 18 hr.—6 hr.—10 min.....         | Normal.....      | 7½ lbs..         | External tear; 2 sutures.....                                   | Normal.                                      |
| 12.... | 20.. | L.O.A..   | 2 hr.—35 min.—15 min.....        | Normal.....      | 5½ lbs..         | Slight tear; 1 external suture.....                             | Normal.                                      |
| 13.... | 21.. | R.O.A..   | 14 hr.—2 hr.—½ hr.....           | Normal.....      | 5½ lbs..         | Slight mucous tear.....   | Sepsis on 3d day; recov'd.                   |
| 14.... | 25.. | L.O.A..   | 12 hr.—2½ hr.—½ hr.....          | Normal.....      | 7 lbs..          | External tear; 2 sutures.....                                   | Normal.                                      |
| 15.... | 20.. | L.O.A..   | 14 hr.—3 hr.—½ hr.....           | Normal.....      | 8 lbs..          | Slight internal tear; 1 suture.....                             | Normal.                                      |
| 16.... | 21.. | L.O.A..   | 12 hr.—5 hr.—½ hr.....           | Low Forceps..... | 5½ lbs..         | External tear; 2 external sutures.....                          | Malaria, tonsillitis; recov'd                |
| 17.... | 26.. | L.O.A..   | 7 hr.—1 hr.—10 min.....          | Normal.....      | 8½ lbs..         | Normal.....   | Normal.                                      |
| 18.... | 23.. | L.O.A..   | 10 hr.—2 hr.—3 min.....          | Normal.....      | 4 lbs..          | Normal.....   | P.M. Temp.; tuberculosis.                    |
| 19.... | 20.. | L.O.A..   | 7 hr.—2 hr.—35 min.....          | Normal.....      | 7½ lbs..         | Tear through left labia, minora and post vaginal wall.....      | Normal.                                      |
| 20.... | 19.. | L.O.A..   | 3 hr.—1 hr.—35 min.....          | Normal.....      | 8½ lbs..         | Normal.....   | Normal.                                      |
| 21.... | 22.. | R.O.A..   | 4 hr.—1½ hr.—20 min.....         | Normal.....      | 7½ lbs..         | Median tear; 2 external sutures.....                            | Normal.                                      |
| 22.... | 19.. | L.O.A..   | 3 hr.—1 hr.—30 min.....          | Normal.....      | 7½ lbs..         | Laceration of posterior vaginal wall and both labia minora..... | Normal.                                      |
| 23.... | 25.. | L.M.A..   | 3 hr.—1 hr.—½ hr.....            | Low Forceps..... | 5½ lbs..         | Mucous tears; catgut sutures.....                               | Normal.                                      |
| 24.... | 26.. | R.O.A..   | 2 hr.—1 hr.—½ hr.....            | Normal.....      | 4½ lbs..         | Slight median tear; 1 external suture.....                      | Normal.                                      |

perineum, post-partum history, and under the examinations, the condition of the vagina, cervix, uterus, and character of the discharge.

Thirteen of the twenty-four cases present ulcerations at some point on the vaginal wall, resulting from mucus tears which are generally considered too small to require suturing. Twenty cases had lacerations of the cervix with erosions. These erosions were most extensive on the anterior lip.

In regard to the uterus, the measurements were taken in those cases possible from the external os, in those cases with lacerated cervixes from the angle of the laceration. Allowing one inch in addition to the measurements presented in those cases having lacerated cervixes for the portion of the cervix which has been everted,

we find that the laceration has interfered materially with involution. The non-repair of these injuries is a fruitful source of income to the gynecologist. Considering the patient's good should we not educate the laity to the point of having all injuries repaired before leaving the hands of the attending obstetrician and not leave them in ignorance of the fact that nearly all labors are complicated by some injury, however trivial, to the organs of generation. It seems to the writer that the time is ripe for such a campaign of education. This object may only be achieved by generations of forceful obstetricians, men who are not afraid of criticism, but simply look for the ultimate good of their patients.

Small mucus tears require immediate repair.

## B

### POST-PARTUM EXAMINATION.

| Vagina   | Cervix.   | Uterus.   | Discharge.                                |
|--|---|---|---|
| 1. Ulceration on posterior wall....                                    | {Anteflexed laceration, erosion of an-<br>terior lip.....}                                  | Good position; enlarged, tender,<br>depth, 3 in.....                        | {Uterine leucor-<br>rhoea.                |
| 2. Normal .....  | {Erosion of both lips, anterior most<br>extensive .....                                     | Retroposited; movable; depth, 2½<br>in.....                                 | {Vaginal and uter-<br>ine leucorrhoea.    |
| 3. 2 Cystocele, 1 slightly gaping..                                    | {Laceration extending to vault bilat-<br>eral .....   | Good position; large, movable<br>depth, 3 in.....                           | {Uterine leucor-<br>rhoea.                |
| 4. Gaping, ulceration on post vagi-<br>nal wall.....                   | {Stellate laceration, erosions.....}  | Good position; movable; depth, 3 in.  | {Uterine and vagi-<br>nal leucorrhoea.    |
| 5. Slightly gaping .....   | {Bilateral laceration, extensive ero-<br>sion .....   | Good position; movable; depth, 3½ in.                                       | {Uterine and vagi-<br>nal leucorrhoea.    |
| 6. Gaping. Cystocele.....  | {Stellate laceration, with erosions .....   | Good position; movable; depth, 3½ in.                                       | {Tenacious uterine<br>discharge.          |
| 7. Gaping .....  | {Stellate laceration, erosions of ante-<br>rior lip.....}                                   | Uterus good position; movable;<br>depth, 3 inches .....                     | {Vaginal and uter-<br>ine leucorrhoea.    |
| 8. Gaping, ulcerated area on pos-<br>terior vaginal wall .....         | {Bilateral laceration, erosion of ante-<br>rior lip.....}                                   | Retroposited; second degree; mov-<br>able; depth, 2½ in.....                | {Uterine leucor-<br>rhoea.                |
| 9. Slight cystocele, ulceration on<br>posterior vaginal wall.....      | Normal .....  | Good position; movable; depth, 2½ in.                                       | Normal.                                   |
| 10. Slight cystocele, ulceration on<br>anterior wall, and right sulcus | {Slight bilateral laceration, with ero-<br>sions of both lips anterior more<br>marked ..... | Retroposited; movable; depth, 2½ in.  | Normal.                                   |
| 11. Gaping vagina, cystocele recto-<br>cele .....                      | {Slight bilateral laceration, with ero-<br>sion of anterior lip .....                       | Good position; movable; depth, 2½ in.                                       | {Uterine leucor-<br>rhoea.                |
| 12. Normal .....   | {Erosion of anterior lip .....  | Good position; movable; depth, 2½ in.                                       | Normal.                                   |
| 13. Ulcerated areas on right and left<br>labial folds .....            | {Complete bilateral laceration, with<br>erosions .....                                      | Slightly retroflexed; movable and<br>tender; depth, 2½ in.....              | {Profuse uterine<br>leucorrhoea.          |
| 14. Cystocele - rectocele, ulcerated<br>area at fourchette .....       | {Slight bilateral laceration, with ex-<br>tensive erosions.....}                            | Good position; movable, tender;<br>depth, 2½ in.....                        | {Normal.                                  |
| 15. Ulceration on posterior vaginal<br>wall .....                      | {Slight laceration, erosion of anterior<br>lip.....}  | Good position, movable, tender;<br>depth, 2½ in.....                        | {Slight leucorrhoea.                      |
| 16. Gaping vagina cystocele—recto-<br>cele ulceration at fourchette..  | {Slight bilateral laceration, no ero-<br>sions .....  | Good position; movable; depth, 2½ in.                                       | Normal.                                   |
| 17. Normal .....   | {Slight bilateral laceration, with ero-<br>sion of anterior lip.....}                       | Anteflexed; movable; depth, 2½ in.  | {Uterine leucor-<br>rhoea.                |
| 18. Slight cystocele .....   | {Cervix pointing to left stellate la-<br>ceration, erosion of anterior lip...}              | Uterine body displaced to right; mov-<br>able; body firm; depth, 2½ in..... | {Normal.                                  |
| 19. Ulcerations on posterior and<br>lateral vaginal wall. Cystocele    | {Bilateral laceration, erosions of both<br>lips .....                                       | Anteflexed, displaced to right; mov-<br>able; depth, 2½ in.....             | {Uterine leucor-<br>rhoea.                |
| 20. Normal .....   | {Erosions of cervix.....}   | {Slightly anteflexed; movable, depth,<br>2½ in.....}                        | {Uterine leucor-<br>rhoea.                |
| 21. Normal .....   | Intact, no erosions .....   | Retroverted; movable; depth, 2½ in.   | {Uterine leucor-<br>rhoea.                |
| 22. Gaping. Ulcerated area in right<br>vaginal sulcus .....            | {Unilateral laceration, no erosions....}  | Good position; movable; depth, 2½ in.                                       | {Uterine leucor-<br>rhoea.                |
| 23. Ulceration on posterior vaginal<br>wall .....                      | {Stellate laceration, with erosions.....}   | Good position; movable; depth, 2½ in.                                       | {Uterine leucor-<br>rhoea.                |
| 24. Ulceration on lateral walls .....                                  | {Unilateral laceration, with erosions<br>of both lips.....}                                 | Good position; movable; depth, 2½ in.                                       | {Thick, tenacious<br>uterine leucorrhoea. |

Lacerations of the vaginal wall and perineum are best repaired immediately.

Lacerations of the cervix are best repaired within a period of from seven to twelve days.

### THE "GROWING PAINS" FALLACY.

BY RICHARD WARD WESTBROOK, M.D.

This is a subject to which I have devoted some missionary work as opportunity offered. One of the most deeply-seated fallacies in the minds of the laity, shared also by some of the medical profession, is that of the frequency of pains in the muscles and joints of children of all ages as an accompaniment of normal growth. "Growing pains" is a household expression; and cases of moderately persistent pain, not easily explained, are often dismissed by the parents, and sometimes by the physician, as a natural phenomenon attending the child's growth, and not a symptom of disease. As a result of this, pathological conditions which may affect most vitally the child's future are frequently overlooked in their incipency, irreparable damage often done, and even life itself lost as a consequence. It is my intention to discuss here the morbid conditions of most importance which are the real origin of much of the pain mentioned. And, also, to consider the question as to whether there is actually any pathological entity of favorable prognosis to which the name "growing pains" or similar name may be applied, and which medical men must be prepared to differentiate from the diseases of grave prognosis which have similar pain as a symptom.

It has been chiefly in orthopedic surgery where I have met again and again the story that treatment of the diseased hip, or knee, or spine was delayed because somebody said it was "growing pains" that ailed the child. But the orthopedic surgeon must also be a medical diagnostician, and I have learned to insist on the importance of a careful investigation of all cases of unexplained or obscure pains in trunk and extremities. Only too often has the tell-tale murmur of endocarditis revealed an unrecognized rheumatism of childhood, whose principal manifestation had been these insidious so-called "growing-pains."

It may be best to first consider what is the medical idea of "growing-pains." Gould & Pye's dictionary defines it as follows: "A term applied to neuralgic or rheumatic pains in the limbs

occurring during growth and apparently of varied origin and character. The condition is sometimes known as "growing fever," and occurs usually in children from 7 to 15 years of age. It is characterized by pain in the regions of the epiphyseal lines, rapid growth, and sometimes fever, with considerable constitutional disturbance. The symptoms usually pass off without any bad results, although osteomyelitis is sometimes set up, and exostoses are developed along the epiphyseal lines." This accords with the description of growing-pains given in a number of works on diseases of children in the past twenty years, and all are based on an article published in 1879, in Paris, by Dr. G. Bouilly, entitled, "Growing Fever of Infants and Adolescents." This description has been copied around as authoritative from one to another, apparently without question. The author attempts to recognize a more or less specific disease, often attended with very rapid growth, which he designates "Growing Fever," but the cases cited by him appear to involve a number of pathological conditions which do not permit of arbitrary grouping under one heading, some of them being cases of severe septic osteomyelitis.

Foster defines "growing pains" as "a familiar term for a sense of numbness and fullness about the groin, with slight pains about the joints, in young persons approaching puberty, supposed to depend on an increased vascularity of the epiphyses of the long bones." G. Stanley Hall, in his recent monumental work entitled, "Adolescence," says that "sometimes the muscles grow in length more slowly than the bones, and then occur the 'growing pains' so characteristic of this age, especially in boys,"—a very novel explanation.

One sees, therefore, that the attempts to define any special class or group of pains under the head of "growing-pains" is very unsatisfactory. It has never fallen to my lot to observe either "growing-pains" or "growing-fever," although I have had considerable opportunity. I am persuaded that pain or fever accompanying the growing period may be placed definitely in its own proper pathological category, if studied with sufficient care in the light of our present knowledge. At any rate, the use of the term, "growing-pains," on the part of the physician is mischievous, as it expresses nothing in particular medically, and produces indifference in the lay mind to symptoms whose development may demand careful watching.

What suspicion, then, shall we bring against the class of pains under consideration until they can be proven innocent? They should invariably be looked upon as the possible precursors of acute and chronic joint disease, rheumatic, tubercular, or septic in nature, not forgetting the endocarditis of childhood as practically belonging to the joint affections, and so often a result of mild rheumatism. I do not mean that every passing pain in legs and arms of active childhood should be brought into this category, as the aches of fatigue, slight strains, or contusions, are very common; but every case of persistent or recurring pains should be placed under suspicion.

Of the surgical affections whose early symptoms of pain, stiffness, and muscular rigidity are often lightly regarded by the parent as "growing-pains," tuberculous diseases of hip, knee, ankle, and even spine are the most important. Contrary to the usual belief, the prognosis in tuberculous joint disease is very good, if treatment be begun in the early stage, before marked deformity and disability have supervened. It is in this stage where the mother fears something is wrong, but her anxiety is relieved and treatment delayed because the neighbors suggest that it is "growing-pains," or perhaps the doctor puts her off with the same suggestion, and neglects careful physical examination for tincture of iodine, poultices, or liniments. If every practitioner would learn to recognize muscular spasm and limitation of motion, and then take the time to examine suspicious cases, the diagnosis, or provisional diagnosis, of tuberculous joint disease could be made before the onset of marked deformity, and the prognosis and results greatly improved. It is equally important to treat tuberculous diseases of bone and joints in their incipency, as it is tuberculous disease of the lungs, if good results are to be expected. It is not easy to recognize tuberculous joint disease early, and for that reason greater attention should be given to it, and the physician should be on his guard whenever pain or limp is presented to him. Where parents have been put off with one diagnosis or another, and tuberculous joint disease develops, they never forget to condemn the doctor who failed to recognize the affection.

We frequently find less important affections, such as flat-foot or weak-foot in children designated as "growing pains," but delay in diagnosis here is not of vital importance. I have also observed pains and aching in the legs as a feature

of malaria in children, the pain being complained of at the time of the paroxysm.

The most important, perhaps, of all the conditions where "growing pains" are made to do duty for want of a diagnosis, is that of the milder rheumatic joint affections of children, especially of the ages of from five to ten years. The frequency of cases of rheumatism in orthopedic clinics leads one to the conviction that rheumatism in young children is often overlooked. When a case of recent joint involvement with limitation of motion, pain, and limp is brought for treatment, the diagnosis lies usually among three things, namely, strain, rheumatism, or tubercular disease. Many of these cases clear up quickly under rest alone, others under rest combined with salicylates, and others only under the continued fixation required in chronic joint disease, thus deciding the diagnosis if in doubt. Often rheumatism affects but a single joint in children, swelling may be slight or absent, and tenderness not very marked. The child is able to be about, but muscular spasm and limitation of motion in the part is quite evident. A more sudden onset, and often continuous slight fever, distinguishes it from tubercular disease. There is often a history of rheumatism in the patient's family in rheumatic arthritis, and of tuberculosis in the family of the patient with tubercular arthritis.

The chief importance of recognizing these rheumatic cases, especially though mild, is the great frequency of cardiac lesions in the rheumatism of childhood. The younger the patient, the greater the risk of the heart becoming affected. It is stated that this organ is implicated in one third of all cases occurring before puberty. It has become my habit to examine and continue to watch the heart closely in all of these milder rheumatic cases, with which variety it has chiefly fallen to my lot to meet. Endocarditis may develop even in acute rheumatic wry-neck, with no involvement of the joints at all.

A recent case observed by the writer may illustrate very well this milder type of rheumatism in childhood, and its serious possibilities. I was called to see a child of six who had not been feeling quite well for several days, and had ceased play a number of times, complaining of some pain in the arches of the feet, but the pain had not been sufficient to cause her to remain quiet or to interfere with sleep. The mother had decided that they were "growing-pains," but finally sought my advice. I saw the child first on March 9, 1904, and found that she had a temperature of nearly 102°, and a coated tongue.



Her complaint of pains in the feet had ceased when I saw her, and she had no pains elsewhere. Some weeks before, I had incised a suppurating tonsil for the child's father, and he had informed me of his recent freedom from suppurative tonsillitis, although years previously he had suffered many attacks. This freedom he ascribed to large doses of salicylate of soda taken at the first onset of symptoms of tonsillitis, on the advice of the physician who had last previously lanced his tonsil. This put me on the alert for rheumatism in the child. I examined the child's heart carefully, but the sounds were normal. Two days later, I looked over the child again. She still had some fever, but not more than  $100^{\circ}$ , did not complain of her feet, and her heart sounds were normal. Five days after my first observation I again saw her, as she was languid and somewhat indisposed, and found a well-marked soft, blowing, systolic murmur. I made the diagnosis of acute rheumatic endocarditis, prescribed oil of wintergreen and salicylate of soda, and ordered strict quiet in the horizontal position. Two days later the murmur had developed still more markedly, was transmitted well around to the left and heard at the back, and her pulse was rather irregular. The child, however, felt well and jolly on that day, and had no fever, this being not an uncommon thing when the endocardial murmur develops, a child's improved condition causing further search to be given up, and the endocarditis consequently overlooked. The child became then practically well, except for the presence of the murmur and the irregularity of the pulse. I, however, insisted on absolute quiet for the child and suggested that the mother allow me to fix her on a Bradford frame, as I am accustomed to do cases of spinal and joint diseases, the heart being practically a joint in these cases, and every effort being indicated to relieve it from strain and keep it at rest until recovered. The mother could not bring herself to allow the Bradford frame, but made it her duty to keep the child in bed and recumbent. The child was kept recumbent as far as possible for one month, was kept nearly another month confined to one floor, and was denied all vigorous exercise for six months. The murmur gradually became less apparent, and at the end of six months could not be found by the physician who had charge of her in the country. At the end of seven months I could not bring out the murmur by exercise, and allowed the child full freedom. Anæmia was not a feature of this case.

While having the above case under observa-

tion, I was asked to see an exactly similar case by a brother physician. A boy, aged 7 years, whose father had had inflammatory rheumatism at 18, developed pains in his legs, which his mother dismissed as "growing-pains." Chorea supervened. The family physician was called in after about a fortnight, and found the boy with a dilated heart. There was no history of rheumatism or infectious disease previous to this attack. The boy was put to bed, but his parents did not successfully keep him quiet, having little control over him. When I saw him three weeks later, he presented a greatly dilated heart, enlarged liver, cyanosis, air-hunger, etc., and was practically moribund. Might not this boy have been saved also if seen during his "growing-pains" period, and fixed in bed on a Bradford frame? About this time, also, I was told the history of a third case, that of a boy of similar age. He complained of pains in his legs, for which no definite diagnosis was made. The next development was acute dilatation of the heart, to which he succumbed.

I could cite other cases still, which make me feel strongly the necessity of more missionary work among both laity and profession in regard to this matter of recognizing rheumatism in childhood, and watching the heart carefully. But we must double our efforts when the diagnosis of acute endocarditis is made. The inflamed heart should be given as systematic rest and fixation as is possible to an organ which knows no rest, by relieving it of all possible work and strain. I do not know how this could be better accomplished than by fixing the child on a Bradford frame, made of gas-piping, with canvas stretcher, or a stretcher bed on wheels, both of which permit of his being strapped down and kept absolutely quiet, while he may, at the same time, be carried from room to room, and out into the open air. We do not hesitate to place a child for a year or two at rest in that manner for the cure of tuberculous spinal disease, and surely it is not asking too much to place a crippled heart at rest from one to three months, with also a fair prospect of cure. The early recognition and adequate treatment of endocarditis in childhood will surely save some of the wrecked lives and sudden deaths from heart diseases in later years. And it is the recognition of endocarditis in the milder cases of rheumatism which is to be urged, where the physician is less watchful of the heart than in the pronounced cases.

In discussing this subject of the so-called

"growing-pains," I do not wish to imply that medical men often shirk the question of diagnosis and let it go at "growing-pains." But there is no question but that there is often an indefinite assent to the parents' suggestion of "growing-pains" as the diagnosis in a doubtful case. This is also warranted as long as medical literature persists in recognizing the term. Jacobi says that the term should have been dropped long ago, as it usually means rheumatism, and yet he asserts that pains about the joints are of frequent occurrence in children without a perceptible cause besides the physiological hyperæmia in the intermediate cartilages of the epiphyses of the long bones, which is required for normal growth. I can only repeat that I have never yet met with such a condition to recognize it, and I believe that the notion and the name of "growing-pains" should be dismissed from the medical mind and medical literature. As regards the lay mind, it seems to me that the wisest measure the medical profession can take in the matter is to impress the fact that the so-called "growing-pains" are only too often serious, and mean usually rheumatism (and heart disease), or tubercular joint disease.

DR. E. E. CORNWALL: Most of us have met with cases of endocarditis in children where the causative rheumatism was diagnosed as "growing pains" and neglected. Such a case was the following, which I briefly report because it illustrates a point in prognosis which deserves to be emphasized.

A girl of six was supposed by her mother to have growing pains. Not long after she became pale and weak, and I was consulted. I found a mitral insufficiency with considerable dilatation. Compensation was secured by careful treatment and rest in bed for five months. When the child got up the mother was warned of the necessity of using strictest vigilance to prevent over-exertion and rupture of the compensation. Notwithstanding this warning the child was allowed to take a long walk about six months later and a relapse occurred. This time it took eleven months to restore the cardiac balance. A few months after it was restored a second relapse was brought on by playing too hard. From this there was no recovery. After lingering thirteen months the patient died.

The point in prognosis which this case illustrates is this, that the prognosis of endocarditis in children is rendered worse than the intrinsic conditions make it by the difficulty, in many

cases the impossibility, of enforcing proper restriction of the patient's activities for a long time after compensation has been established. It is hard to make even intelligent parents realize the necessity for keeping a child, who seems entirely well, quiet for a long period, perhaps one of years. And it is hard for the parents, even if they realize the necessity, to keep such a child quiet. Yet unless these cases are kept quiet until a margin of power in the heart muscle is secured sufficient to stand the strain of ordinary active life in addition to the strain put on the heart by bodily growth, relapses are certain.

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#### REPORT OF TWO CASES OF MATERNAL IMPRESSION.

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BY ROBERT E. COUGHLIN, M.D.

The writer has always been in accord with those who believed that so-called maternal impressions were accidental coincidences, but the following cases occurring in his practice have shaken his views in this regard.

Case 1. Mrs. T., of Brooklyn, engaged the writer to attend her in her expected confinement, which, according to the table for calculating the period of utero-gestation, would read April 7, 1901, she having menstruated last, July 1, 1900.

In September, when she was about two months pregnant, she was shocked to see her husband return one day from his work with a bandage saturated with blood on the middle finger of his right hand. While at work he had met with a slight accident, the injury consisting of a lacerated wound, which had been dressed by an ambulance surgeon. Two days following Mrs. T. dressed her husband's wound with carbolic ointment, and continued to do this until the finger was well. At this time it occurred to her that she had done wrong in having dressed the wound, and, in consequence, she spoke of the matter to several persons, especially the nurse whom she had engaged to attend her. She did not mention the incident to the writer, because she thought that physicians, as a rule, did not believe in these "marks," or impressions.

On Thursday, April 11, 1901, after an easy and uneventful labor, Mrs. T. gave birth to a female child, the child being well and healthy in every respect. An examination of the infant's hands showed that at the first joint of the middle finger of the right hand a birth-mark, or nevus,

was present. It consisted of dilated arteries, causing quite a swelling on the side of the finger, the color being blood red. Its size was about that of a small pea. The location of the nevus was exactly in the location corresponding with the wound on Mr. T.'s finger.

Case 2. Mrs. A. In 1897, during the middle part of June, this patient menstruated as usual. During the first part of the following month, Mrs. A. took a trip to the aquarium at Battery Park. One fish made a deep impression on her, namely, a porpoise, which jumped out of the water a great deal, emitting a loud cry, at the same time opening its mouth very wide while doing so, and drawing the mouth to one side as it threw water up into the air. When she returned home, Mrs. A. imitated to her children the actions of the fish, showing them especially how it drew its mouth to one side. At this time she did not know that she was pregnant. Nothing else occurred in her pregnancy worth relating, and she gave birth to a child on April 13, 1898. Examination of the child showed it to possess a mouth very like a fish, drawn to one side, reaching to the right ear, the right ear being at the same time malformed, resembling very much the fin of a fish.

A subsequent operation was partly successful in correcting the deformity.

428 Forty-seventh Street, Brooklyn. N. Y.

## TRANSACTIONS OF SOCIETIES.

### THE MEDICAL SOCIETY OF THE COUNTY OF KINGS.

STATED MEETING, APRIL 18, 1905.

The President, J. W. FLEMING, M.D., in the chair.

There were about 100 members present.

The meeting was called to order and the minutes of the previous meeting read and approved.

#### REPORT OF COUNCIL.

The Council reported favorably upon the following applications for membership:

Stanislaw J. Altier, 6 Sumner Ave.  
John L. Crofts, 295 Jefferson Ave.  
John J. Dooling, 256 Tompkins Ave.  
William J. Flannery, 238 Arlington Ave.  
David Gingold, 53 Sumner Ave.

Albert J. Keenan, 1146 Park Place.  
Thomas F. Patterson, 87 William St.  
Victor H. Pentlarge, 198 Eighth Ave.  
William Pfeiffer, 377 McDonough St.  
Owen M. Waller, 762 Herkimer St.  
William H. Woglom, 241 McDonough St.

#### APPLICATION FOR MEMBERSHIP.

Applications have been received from the following:

C. Giovinco, 175 Central Ave., L. I. C. H., 1900.

Proposed by R. S. Fowler, seconded by G. R. Fowler.

William Rachlin, 113 Harrison Ave., N. Y. Univ., 1898.

Proposed by G. R. Fowler, seconded by R. S. Fowler.

Paul G. Taddikens, L. I. State Hosp., Kings Park, L. I.

Proposed by Membership Committee, seconded by O. M. Dewing.

Charles E. Perkins, 618 Park Place, P. & S. N. Y., 1888.

Proposed by W. B. Chase, seconded by Carroll Chase.

#### ELECTION OF MEMBERS.

The following having been duly proposed and accepted by the Council were declared by the President elected to active membership:

M. M. Apfel, 331 South Fifth St.  
Robert F. Bliss, 383 Park Place.  
Frank E. Brown, M. E. Hospital.  
Maurice E. Connor, 95 Berry St.  
C. B. Cortright, 1571 Bergen St.  
Roger Durham, M. E. Hospital.  
John A. Ferguson, 1187 Gates Ave.  
C. J. Koehler, 313 South Fifth St.  
Abraham Moss, 203 Bedford Ave.  
John H. Reb, 328 Jay St.  
George H. Reichers, 1411 Bushwick Ave.  
Henry Tarbox, 154 Herkimer St.

#### DECEASED MEMBERS.

The Historical Committee reported the following deaths:

Hugo Koethe, died March 16, 1905; member 1904 to 1905.

Richard Henry Sullivan, died March 27, 1905; member 1894 to 1905.

Charles A. Olcott, died March 30, 1905; member 1895 to 1901.

#### SCIENTIFIC PROGRAM.

Paper: "The Economical Administration of Hospitals," by Dr. J. W. Brennan, M.D., Presi-

dent Board of Trustees of Bellevue and Allied Hospitals, New York City.

Discussed by Dr. John F. Fitzgerald, Supt. Kings County Hospital, Mr. James J. McNery, and Deputy Commissioner of Charities.

Mr. Theodore L. Frothingham, President Board of Trustees, Brooklyn Hospital.

Rev. A. S. Kavanagh, Supt. Methodist Episcopal Hospital.

Mr. James R. Lathrop, Superintendent Roosevelt Hospital.

Dr. John Harrigan, Pres't Medical Board, St. Mary's Hospital.

Dr. R. E. Shaw, Sup't L. I. College Hospital.

#### EXECUTIVE SESSION.

The following resolution was presented, and, on motion, duly carried, adopted:

*Resolved:* That it is the sense of this Society, that the allowance for charity patients paid private hospitals by the city is manifestly unfair when compared with the per diem cost in city hospitals, and that, therefore, the Board of Estimate and Apportionment be respectfully urged to make this allowance equal to the average cost per diem maintenance in the city hospitals.

Adjourned.

JOHN A. LEE, M.D.,  
*Secretary.*

### THE MEDICAL SOCIETY OF THE COUNTY OF KINGS.

STATED MEETING, MARCH 21, 1905.

The President, J. W. FLEMING, M.D., in the Chair.

PAPER: A CASE OF EXTENSIVE CARCINOMA OF THE TONGUE AND NECK, PRESENTING POINTS OF SPECIAL INTEREST.

BY DR. WM. SEAMAN BAINBRIDGE.

#### *Discussion.*

DR. W. C. WOOD remarked, that as the patient himself had said, after the reading of the paper and the demonstration of the case, there was nothing more to be added. He was sure the surgical triumph was plain to all. Those who have operated more or less for cancer of the tongue and have seen some patients die from shock, some die from pneumonia at the end of a week, some die from secondary hemorrhage and some die from a recurrence of the disease in the neck, al-

though the malignant disease in the mouth has been cured, he thought could more fully appreciate the completeness of such a surgical demonstration.

The points especially interesting to him were, in the first place, the choice of the anesthetic. He believed that chloroform with oxygen is the anesthetic per choice for all extensive mouth and throat operations. A second matter that is contrary to our usual custom is the division of the operation into two stages; that he believed was surely indicated here and might be followed in some cases in the future to advantage. The principles involved here, he said, are well known to us all; they have simply been carried out more methodically, more accurately and more successfully than we have often seen.

Dr. Wood thought none could doubt the diagnosis. He was sure most of us are reasonably certain, or perhaps we should say practically certain, that here from the evidences we have seen at the end of a year what is practically a complete cure of cancer of the tongue. When we compare the statements of Buttlung and others that only ten per cent. are free from recurrence at the end of a year, he was sure we have to congratulate the surgeon for his success, the patient for his courage and ourselves for the opportunity of seeing the case.

DR. R. S. FOWLER: Theoretically carcinoma of the tongue should give a good prognosis; practically it does not; and he thought the reason for this is in many cases that the original operation is not done thoroughly enough. He thought he must have been particularly unfortunate in having come to him cases in which recurrence had taken place after other surgeons had operated on these cases, and in almost every instance, eight or ten in all, the glands of the neck had not been removed at the former operation. There had been no attempt at a thorough dissection of the glands of the neck, and he believed this should be done in all cases whether they were palpably enlarged or not. The Doctor believed that in cases of carcinoma of the tongue, not only the tumor but the glands should be removed whether or not diseased by cancerous tissue. It is all the better for the patient if these glands are not yet involved.

One of the reasons why cancer of the tongue should be regarded as a local disease is on account of the nature of the tumor. It is usually of the squamous celled variety. An examination of the lymph channels between the original

growth and the lymphatic glands will not show cancerous emboli. Again, secondary growths are rare in the internal organs. These cases will live for about 1½ years after the original growth is well established, and then die from starvation, cachexia, hemorrhage, or ulceration, but not from metastases. For these reasons it is to be considered locally limited to the tongue and invading the adjacent tissues secondarily. Theoretically considered, the disease should be readily amenable to surgical treatment, *i.e.*, removal of the tongue and also the glands that are likely to be affected, that is the submaxillary submental, parotid, and also the submaxillary salivary gland, because in this gland there are almost always one or two lymph glands imbedded, which can only be removed by the removal of the submaxillary salivary gland itself.

The prognosis should be good. If the glands about the neck are affected the prognosis is bad, but often in these cases heroic surgery can do much by dissection of the lymph channels of the neck. In removing the glandular elements it must be remembered that there is no hard and fast rule, which governs as to the glands which may be affected; the carcinoma may be on one side, the affected glands on the other side of the neck. This is due to the extensive lymphatic anastomosis.

Dr. Fowler thought the operation should be divided into two stages; first, the absolute removal of the disease within the mouth; second, the removal of the glands; and the removal of the glands should be done after the patient has fully recovered from the former operation, not while he is still in a weakened state.

There are many cases reported in which we read of the patient being put back to bed and dying of dyspnoea when the operation was done through the neck. In these cases probably sufficient attention was not paid to the raising of the larynx. The divided muscles (genio-hyoid and genio-hyoglossi) should be sutured back in place, and Butling says even when the sutures are in place they may give away three or four days later by softening or tearing of the tissues, and the larynx may drop back and the patient die of suffocation. He advocates preliminary tracheotomy or division of the jaw at the symphysis and then pulling the tongue over the genio-hyoglossi and genio-hyoid muscles instead of sectioning them.

As to the results of operation Butling gives 333 cases with 42 deaths; 8 were due to shock,

exhaustion and hemorrhage, 12 to bronchopneumonia and general sepsis; the rest are not accounted for.

Dr. Fowler believed we should operate on every case when there is the slightest chance of eradicating the disease in the mouth, as a more horrible death than cancer in the mouth is not known. It is far better for the patient to die in our effort to eradicate the disease than it is to suffer the horrible death which comes from cancer in the mouth.

DR. WM. SEAMAN BAINBRIDGE expressed his thanks to Drs. Wood and Fowler for their interesting and able discussion of his paper, and to the Society for their very cordial reception given him this evening.

Little was to be added to what had been said. Dr. Wood's choice of chloroform and oxygen as the method of anesthesia in such cases was undoubtedly the best. The Doctor said that this was the first case in New York City, so far as he knew, where chloroform and oxygen vapor anesthesia by the open method had been used throughout an operation. It worked well, and Dr. Gwathmey, who has been writing so much on the subject, administered it.

Operating in two steps in many of these cases is certainly very wise. To open up the deep tissues of the neck to be bathed by saliva and broken down cancer cells, when this can be avoided, is most unsurgical. The disease of the glands first and working back to the primary site of the disease was urged as wise in the neck as in breast cancer.

Dr. Fowler's remarks urging operation, even on seemingly hopeless cases, Dr. Bainbridge wishes to heartily second.

#### PAPER: THE PRESENT METHODS AND RESULTS IN OPERATIVE ATTACKS ON THE HYPERTROPHIED PROSTATE.

BY DR. L. S. PILCHER.

#### *Discussion.*

DR. EUGENE FULLER said he had certainly been interested in Dr. Pilcher's very able paper. As Dr. Pilcher had said in the beginning, the methods of different operators are varied, and the subject of prostatectomy is a comparatively new one. The Doctor said that eleven years ago, when he first began the removal of the prostate, the procedure was very new indeed. It was then that he elaborated his operation of suprapubic

enucleation of the prostate, and he has been doing that operation a great deal ever since. He had also done perineal prostatectomy extensively.

When Dr. Fuller first began enucleating the prostate, it was harder work to get good cases to operate on than it is to-day, because then the profession had hardly waked up to the fact that prostatectomy could be done, and consequently were averse to the operation. This feeling always worked against him, and if he got hold of a man who was just beginning catheter life, no one would allow him to operate, so that practically all the cases that one could get hold of were almost in extremis. When the patient had been greatly reduced by suffering and was ready to have you do anything to relieve him, why naturally the mortality was heavier in those days than now even with the same amount of skillful surgery. Consequently in his earlier writings he had always said that he did not think it was right in prostatectomies to try to work simply for mortality statistics.

At the present time the Doctor has operated on about 322 cases of enucleation; cases where you can enucleate something, where there is something to be removed. He did not count as prostatectomies cases of contracted fibrous prostates wherein there was really nothing to enucleate, the operation in such cases being simply an incision through the vesical neck.

In most of his work he depended entirely upon the finger, upon the sense of touch, and he did not trust to his sense of sight in these cases; in fact, he felt that his finger told him more than his eye, as far as prostatectomy is concerned.

The Doctor realized how others might look at the subject differently than he did, but the objection he has had to the perineal cases, where you have to do so much dissection, is the danger of injury to the rectal wall. He never yet in his prostatectomy work has left a person with a vesico-rectal fistula, and he felt that a great many times that perhaps it is better for the surgeon and the patient that death should result from operation rather than a vesico-rectal fistula, because he thought the suffering is really very great where you leave a person with urine leaking through his rectum, and he believed, he stated, that in the performance of the suprapubic method, one ought not by right to tear away the urethra. He thought that if you make a median cut through the trigonum, beginning with one blade of your scissors in the urethral opening and the other in the post prostatic cul-de-sac and divide included

vesical wall with a good, clean cut, and then get the finger right straight down through that and work steadily, getting the whole thing enucleated, always from the middle line, that there is very little danger of bringing away the urethra. He remembered operating on one occasion wherein he tore away a piece of the urethra, the mass removed being quite similar to that pictured by Dr. Pilcher, and in that instance the man made a good recovery. As Dr. Pilcher described, the mucous membrane grew down in very much the same way as in resection of the urethra.

As far as the mortality for the last two years was concerned, in his private cases Dr. Fuller has had a mortality of 4 per cent. In the hospital cases where you get people many of them destitute, half starved and in very poor condition, the percentage runs to about  $5\frac{1}{2}$  and possibly a little higher than that.

As to the question about sterility, which had received a great deal of attention at the present time, he had had a number of cases where the patients have been previously impotent for a number of years, where the operation has relieved this disability, so that they have married young women. In cases where persons had lost their sexual power a good many years before from seminal vesiculitis associated with a good deal of sclerosis, he thought you should not promise anything from prostatectomy, but he had noticed in certain cases where the prostatic hypertrophies pressed on the ejaculatory ducts a great deal and where by pressure they obstructed the act of ejaculation, causing anatomic distension of the walls of the seminal vesicles, if you carefully remove the prostatic pressure, the occlusion of the ejaculatory ducts is released. These cases get better after prostatectomy and recover their sexual vigor. He had a case like that some time ago in which the urination was in good condition, where the main thing complained of was the sexual symptom, where impotency and discomfort generally were the features, and where he operated just for that condition and removed the prostatic mass, which seemed to be pressing in the manner described on the seminal vesicles without obstructing urination. In this instance after six months from the time of operation the sexual function resumed itself, and the man recently sent the doctor his wedding card.

There is another condition of affairs which is not so very rare. He has met it twice in the last three months, and that is cancer of the prostate. These old hypertrophied prostates begin to under-

go cancerous change in a certain number of cases. When you begin to operate you may be a little bit suspicious, if when you get in there you find a hard mass you cannot practically enucleate and where everything is adherent. Some authorities at the present time say if you get into a condition like that, leave it alone, but he did not believe in that. He thought the thing to do is to take it out. In a case like that you have to use your best judgment many times. Last October a gentleman 62 years old, weighing 270 pounds, came to him, having suddenly gotten prostatic symptoms. The doctor was suspicious of cancer in this instance on account of the sudden development of the symptoms. Where a man is practically well, and the whole thing has come on suddenly, you want to suspect the possibility of malignancy to account for the rapidity of the obstruction, and that was the only symptom he had in this man to make him suspicious of the diagnosis. The patient was big, the prostate was very hard to reach perineally and he went in through the suprapubic route. He reached the prostate first by the perineal incision, and found everything so adherent he could not bring it out, and he was very sure that he had a malignant condition to deal with. The doctor then went in suprapubically, and by a combination of both methods managed to pry off the mass and got it away without injuring the rectum. The tissue was submitted to two pathologists, who pronounced it to be carcinoma. The man made a beautiful recovery. He lost, however, about 60 pounds, so now he weighs just over 200. His wounds have healed and he urinates perfectly well. It was an important case, and the doctor was very glad to get such a good result. If he left him with a suprapubic or perineal fistula, the patient would not have felt as well as before the operation. When you know you have a cancer of the prostate and do not expect to do anything radical on it, the best thing is not to operate until a condition of extremis is reached. If you open him too quickly and do not do a radical operation, and he says he could urinate before the operation, and goes out with a tube in his abdomen, he never will thank you. In fact, you will get no praise at all for what you have done.

As for results after prostatectomy, the doctor thought that in doing a radical operation you ought to be able to insure a good result. A person ought to be able to empty his bladder completely after the operation, and he ought not to have residual urine. If these cases do not have

residual urine, the urine will soon become sterile and the trouble in the ureters and elsewhere ought to repair itself in six months. He had a man who is recovering now, who had a big vesical sacculous near the fundus where the mucous membrane had pushed its way right through the muscular wall, leaving the bladder in great danger of rupture.

All these lesions, if you do your operation correctly, can be repaired, but there is one point about the operation to do in these cases where you have got a very damaged bladder that was not brought out. If you get a bladder that needs a great deal of rest and where the ureters are dilated, and where you have these sacculated conditions of the bladder, that bladder needs to be given complete rest for a long time before it recovers, and if you remove the prostate and do not rest the bladder long enough, you are going to have a tedious convalescence. If you open the bladder suprapubically, you can rest the bladder absolutely for a month or more without any disturbance at all, and it is wonderful the amount of repair you get. When everything heals up and the bladder does its work again, it is a strong bladder and can functionate perfectly. The doctor had a case now where a sacculus gave trouble, a case that he operated by the perineal route last summer. He took out the whole prostate. The man was a very hard one to manage and did not follow out any special directions and left the hospital. He had no prostatic obstruction at all. When the patient came back in the autumn the urine was very foul. The doctor examined him and found that he had a stone. A litholopaxy was done and the stone removed. The patient urinated very poorly, the bladder did not stand the strain of the litholopaxy, and he had to be catheterized, although he could urinate before that. He began to get in a disagreeable condition; the doctor then opened him suprapubically, when he found this sacculus and found the ureters dilated. The man is now urinating freely perfectly clean urine. Dr. Fuller felt that the first operation was faulty because he neglected the bladder condition. If he had not done that he would have gotten a prompt result, and that is what he felt about many of these extravescical operations through the perineum, namely, that we do not consider the bladder sufficiently. The question, in other words, of getting out the prostate is not the only one to be considered. If the bladder is perfectly healthy and you have no trouble with the ureters and pelvis of the kidney, a prostatec-



tomy is rather a simple matter; then it does not make much difference which way you take it out. In cases of long standing obstruction where complications of the genito-urinary tract have resulted, suprapubic prostatectomy is the operation of choice.

DR. PARKER SYMS began his remarks by saying that the evening had been a great treat to him; in the first place to hear the report and to see the result of Dr. Bainbridge's great triumph in surgery, and then to hear the classical paper which had just been read and also to hear his friend, Dr. Fuller, in his able discussion.

The subject of attack upon the prostrate and prostatic obstruction is a very live issue in surgery to-day, the Doctor thought, and he believed we might all be thankful to hear that progress had been made so far in this field of surgery, that we are not simply groping in the dark as we were a few years ago, but that we have obtained a pretty definite knowledge as to what may be done by operative procedure and are pretty well determined as to the indications for operating; also in that connection as to the contraindications against radical operation, and in addition he thought we are pretty well agreed to-day on the application of the particular method.

As to indications for operation: He does not feel that we should operate on these patients simply because we find that they have prostatic obstruction to urination, but he holds that we should operate as soon as we feel that the obstruction is beginning to cause some damage to the patient's local parts or to the patient's general health. It is certainly true as Doctor Fuller pointed out, that when the bladder has become distended and overworked by its effort to overcome the obstruction, damage to the ureters will ensue in almost all cases, and in the majority of cases, as time goes on through the ureters to the kidney. The position he takes is this: that while there are instances which will prove exceptions to this rule, the catheter life, so-called, must result in almost 100% mortality. Of course, we know of instances where a man may endure the habitual use of the catheter for an almost indefinite period, but there are so many instances where a man may endure for a comparatively long time, and the first thing we know the patient has succumbed suddenly to an additional attack of infection, which is an exacerbation of what he has been enduring.

DR. SYMS felt that when a patient's strength

is being exhausted by pain, loss of sleep, etc., that then we have a good indication, that when there is constant or repeated bleeding which amounts to depletion, he thought that is an indication, and he has always believed that when we have an infection, or when we feel that sooner or later infection will take place, then we should operate.

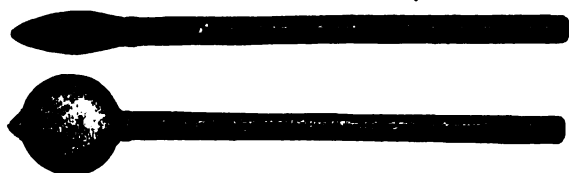
The indications against operation must be very limited. He thought we should hesitate to operate on a man extremely old if he is getting along pretty well, because as Dr. Pilcher pointed out, he has but a few remaining years to look forward to as a matter of expectancy, and we should feel we are giving him very little in the way of benefit, even if we restore him to perfect health, on account of the fact that old age will add materially to the mortality of operation. Otherwise he thought, unless one has a marked physical defect, which would make it impossible for him to undergo the slightest kind of surgical operation, then, of course, operation should be undertaken.

The Doctor believed that work in this field to-day is no longer per se a grave, dangerous procedure—it is grave and dangerous only because the subjects on whom we operate are, as a rule, enfeebled by age and debility.

He wanted to say a word in favor of the simplest form of prostatectomy. In the first place he thought we may leave out the question of the Bottini operation of electro-cauterization. He would only say, in passing, that that method of procedure was advocated at first as being a safer procedure than the removal of the gland. In the hands of some men who have performed that operation and have later taken up prostatectomy, statistics have shown that the Bottini operation is a more dangerous one than the removal of the gland. He would cite Young, who was an enthusiastic advocate of the Bottini operation. In this connection he would also say that statistics, as far as they can be credited, have shown that this is not a curative operation, and recourse has to be had to complete operation later, or some other form of operation. Dr. Syms believed, therefore, that we could dismiss from our consideration the Bottini operation, which leaves only the two methods, the suprapubic and the perineal, with a subdivision of the perineal method.

DR. FULLER in speaking after him in a discussion of the suprapubic method (Dr. Syms having advocated the perineal route), said the reason

why the doctor rejected the suprapubic route was because he did not know how to do the operation by that method. This was an accusation which he might gladly accept, but that was not exactly the reason. The reason was that the suprapubic is not the best method. There were many reasons why he thought the perineal method was the rational one. The prostate may be removed without attacking the bladder at all except in the process of manipulation—that is, the bladder may be left intact after the prostate is removed—and the prostate does not lie in the suprapubic but in the perineal region. It lies in the space very close to the rectum, so if we search for the prostate through the bladder, we must injure the bladder through this upper cut; then we must leave the bladder by a second cut coming down to the perineum. In the hands of skilled operators like Dr. Fuller, Freyer, Moynihan and Lilienthal the results of suprapubic prostatectomy may have been excellent, but in the hands of surgeons at large the mortality has been very much higher than with those surgeons operating through the perineum. Young's mortality from the Bottini operation amounted to in the neighborhood of 8 to 10%, his mortality for suprapubic work amounted to over 20 or 25%, and he reported recently 75 cases of prostatectomy through the perineal route with four deaths, some of which he did not attribute directly to the operation, but still they must be reckoned against the operation, as we do not charge to other causes deaths which take place after prostatectomy before the patients fully recover.



(a) Parker Syme prostate tractor collapsed. (b) Prostate tractor dilated to  $2\frac{3}{4}$  inches.

One other reason why the doctor believed the perineal route is better than the suprapubic is this: he has in his wards in Lebanon Hospital now three cases which were operated on by very competent surgeons by the suprapubic method. One of these patients was nine months in bed before he got up for the first time, another four months in bed; one had a suppurating suprapubic fistula for two years, another man has a contracted bladder, and he thought the bladder is held down by the suprapubic scar. At any rate

the patient insists he must have some further operative procedure for relief. These were not the Doctor's cases nor those of Dr. Fuller, but they were operated on by competent and well known surgeons.

The length of time in bed is an important thing. He has one patient whom he operated on lately who was in bed two weeks before he got up. He was a feeble man 76 years old with an enfeebled heart and very poor arteries. He however, was able to be up except for his heart; that was the only patient he had operated on in a long time who has not been up at the end of forty-eight hours. The first time out they are a little dizzy, but from that time on they are up every day.

As to the special methods of operating through the perineum he thought perhaps his technic had changed slightly, but not much, since Dr. Pilcher became familiar with it. His operation is done essentially by the sense of touch; at the same time he used the sense of sight for material aids at certain periods of the operation. That is to say he exposed the prostatic sheath and made his incision with the sense of sight as an aid, and then after seeing that and starting the enucleation of separation, he recognized not only by the sense of touch but by the sense of sight, the proper line of cleavage. Then when it comes to the separation of the prostate from the portion around the urethra, he exposed that in a great many cases, unless the line of cleavage is simple and easy. He exposed that and made separation not by blunt dissection, but by the aid of scissors, at that important point. The reason is he dreaded very much the possibility of tearing up through the neck of the bladder, the possible loss of the bladder control.

The operation, as he does it, is to expose the prostate through the median perineal incision, and this entails no prolonged dissection. It consists of nothing practically but an external perineal urethrotomy. The patient is placed in the exaggerated lithotomy position, a lithotomy staff is passed into the bladder, the membranous urethra is opened on the staff, and the entire incision consists in one straight cut in the median line. It has the great advantage, which had been brought out in the paper, that we do not wound the rectum. Young has had four rectal fistulæ, and by this more wide-spread dissection, the rectum has been wounded by a great many persons. This is no reflection on the skill of any man, but, as pointed out by Dr. Pilcher, the rectum is near

the membranous urethra, and by dissection we are apt to tear it.

The procedure Dr. Syms adopts differs from Goodfellow's. Goodfellow does what was proposed by Gouley in 1874, that is to say, he makes the perineal incision and enters the urethra, when he at once pushes his index finger into the neck of the bladder through the prostatic urethra, dilating in that way the prostatic urethra, and then he removes the prostate through the prostatic urethra instead of going through the capsule or sheath of the prostate. He splits the prostatic urethra, does not remove it, and he gets his entrance to the lateral lobes of the prostate through that urethra. He is doing Gouley's operation. Goodfellow does that without the use of any tractor whatever, and he has had the best results of any of us.

As to the conservation of function, the Doctor could not say, but he had written to Goodfellow to know particularly about his mortality. He has operated on 96 patients with two deaths, and considering the class of patients we encounter that is a low mortality.

The operation as Dr. Syms performs it is this: he opens the perineum in the median line by simple incision, and exposure of the prostatic sheath, not the prostatic capsule, is accomplished at once by simply pushing on the soft parts after he reaches the prostate, pushing the soft parts, rectum and all, completely away. The wound is rapidly enlarged and the rectum is completely carried away, and there is no danger of wounding it whatever.

The exposure of the sheath of the prostate is made, and then the finger is introduced through the prostatic urethra, dilating it, and through that prostatic urethra the entire floor of the urethra has been divided. This tractor (exhibiting it) which he devised is introduced. It enters the bladder very easily, and after it enters it is dilated with a definite quantity of water, and it makes a soft tractor, making elastic pressure from within the bladder. It is a practical aid, even if not needed for that purpose, in checking the oozing after you have enucleated one lobe of the prostate and are working on the remaining portion. When you relax it the oozing increases.

This method of operation, of course, is one which perhaps requires a good deal of practice to perform. As for himself, he can do it now very quickly and more surely than with any other method of prostatectomy, and he thought that it is a long while since he has taken more than ten

minutes to complete the operation; the enucleation and treatment of the bladder, packing the wound and being ready to take the patient from the table, certainly always in 15 to 20 minutes. That is undoubtedly an advantage with patients of old age.

DR. PILCHER spoke of the preliminary treatment. Dr. Syms makes no preliminary topical treatment of these patients before operation. His routine is to have them take a large cathartic two nights before operation, so that the bowels will be satisfactorily emptied. He does not use urotropin, because we are in danger of having sloughing in using that. He believed that is claimed by some authors, and he thought it prolonged some of his cases where used as a routine.

DR. SYMS had encountered several cases where acute complete retention had been added to the chronic impediment. These patients when they come to the hospitals have already established false passages from attempts at catheterization made outside the hospital, and he thought it is safer either to do a perineal incision and drainage, if the patient is in extreme condition, and then operate in two stages; i. e. remove the prostate after the bladder has been emptied and the infection has been taken care of. He had done that in several instances with very gratifying results.

As to the use of the cystoscope before operation, he thought if we knew these patients have prostatic obstruction, and we know they have residual and infected urine, or one of the indications for operation, that we need no more evidence; the introduction of a cystoscope through a torturous urethra into an infected bladder is more dangerous than the removal of the prostate.

DR. G. R. FOWLER appreciated very highly the work of Dr. Pilcher, the extremely well prepared study of the subject and the exceedingly lucid presentation of it. He appreciated that as much as anything he had listened to in many days, and he wanted to express his indebtedness to the gentlemen who had come from the adjacent borough to favor us with their experience.

With the exception of a few minor and unimportant details, the operation as described by Dr. Pilcher, is the one which he practically carried out, and in his cases the more he has done the operation of prostatectomy, the more he recognized the advantages of the perineal method. He attempted in his first cases to follow out the suprapubic or the intravesical method, and he must say that he failed miserably, although he

removed the prostate and carried on the operative procedure in a rapid and satisfactory manner. However, he abandoned the suprapubic for the perineal method.

His first perineal prostatectomy was one in which a fibrous gland existed, such as Dr. Pilcher had illustrated, and this was a very unpromising case. He did not succeed in getting out the whole prostate, and the patient, a very old man, died, and that has made his mortality of prostatectomy by the perineal route much more than it would have been without.

The use of tractors has never appealed to him. The necessity for bringing the prostate absolutely down within reach before incising the capsule has not been necessary in his experience, although as much of the prostate as can be brought within sight, certainly as much as will render one's appreciation of the line of section of the capsule, ought to be brought into sight, and from that time the operation must be carried on partly by sight and partly by touch. One soon gets to appreciate by the sense of touch when the hypertrophied prostatic tissue is being shelled out and when the capsule is being encroached upon.

The method of incision, to his mind, made a very little difference; if one makes a vertical incision, one can retract laterally; if one makes a transverse incision, the pulp of the mass must be elevated well after releasing the recto-urethral muscle.

The question of drainage after operation is of some importance. He believed drainage should be carried on for as short a time as possible, and the patient should be gotten out of bed as soon as possible. He likewise believed that packing the wound itself for an operation of this extent with gauze thoroughly saturated with Peruvian balsam—that has been his favorite method of dressing where infection is to be feared from neighboring parts—then removing the drainage after forty-eight hours and have the patient sit up, will give the best results locally and generally.

The Doctor said he thought that the man who discovered the surgical capsule of the prostate under circumstances of enlargement, and that there is a thickened portion of it comparatively limited, which is a result of a condensation of the outer portion of the glandular structure, where it comes in relation with its true anatomical capsule, and that it could be shelled out, thereby laying the foundation for what has become one of the most beneficial and successful operations in surgery, deserves well of his fellow men.

## THE BROOKLYN SURGICAL SOCIETY.

REGULAR MEETING, FEBRUARY 2, 1905.

The President, DR. W. B. BRINSMADE, in the Chair.

### INTUSSUSCEPTION.

DR. A. H. BOGART presented a patient, age 11 weeks, female, who had had intussusception. At 3 p. m., December 22, this patient, who had recently recovered from an attack of influenza, was suddenly seized with severe cramp-like pains in the abdomen; four hours later, began to vomit and continued to do so persistently. During the night the pains continued at intervals of five minutes, and were accompanied by straining and the passage of small quantities of mucus and blood. Repeated attempts with enemata failed to produce a normal bowel movement. On the following morning the case was seen in consultation with Dr. V. Gallagher, who had diagnosed the case as intussusception.

*Examination.*—Patient was noticed to be still suffering from pain at intervals of about five minutes, as indicated by its cry, and drawing up of the limbs. Palpation of the abdomen revealed typical sausage-shaped tumor in the left iliac fossa, and upon rectal examination the descending mass could be easily felt.

*Operation.*—Median abdominal incision four inches in length. The invaginated portion of the intestine was easily located and brought up into the wound. Reduction was then accomplished by expressing the tumor from below. There being no adhesions reduction was easily accomplished in this way. The intussusception consisted principally of large intestine, beginning at and including the cæcum, appendix, ascending, transverse and descending colon, well down into the sigmoid flexure. Immediately upon reduction the intestines were washed with hot saline solution and the abdomen closed with through and through sutures of silkworm gut; no attempt being made to shorten the mesentery. Patient suffered comparatively little shock from this operation, which lasted about twenty minutes. The bowels moved several times during the next twenty-four hours, but the baby continued to vomit everything taken; at the end of twenty-four hours, however, this, the only unpleasant symptom, ceased, and patient went on to a complete recovery.

SUPPURATIVE CHOLECYSTITIS WITH GANGRENE OF THE GALL BLADDER.

DR. R. S. FOWLER presented a female patient

whom he had operated on at the German Hospital August 25, 1904, for suppurative cholecystitis with gangrene of the gall bladder. She gave the following history: Six days before operation she had been seized with sudden pain in the abdomen over the region of the gall bladder. This increased in severity and was accompanied by high fever and by chills. When the speaker saw her there was rigidity and marked tenderness, but a tumor could not be made out. He advised immediate laparotomy, which was done, and a gangrenous gall bladder was found with a single stone in the common duct as the cause of the obstruction. The gall bladder was so friable that practically it came away in his hand and without any dissection except where it was attached to the liver. There was a good deal of bleeding, which was stopped by the thermocautery. Although there was no suture placed upon the cystic duct (it was simply packed), there was at no time in the future course of the case any discharge of bile in the wound. The wound healed in a few weeks. She is now free from any of her pain, but there is a separation of the rectus at the site of the incision—not a hernia, but a stretching of the scar, and some tenderness where there must be a little adhesion to the colon.

#### HEMORRHAGIC CYST OF OVARY SIMULATING ECTOPIC PREGNANCY.

DR. J. A. LEE reported the case of a married woman, 30 years of age, whose menstruation had always been regular, of the four weekly type, four to five days duration, and normal in quantity. Her last menstruation was about two months before she came under observation. The patient had been losing a small amount of blood steadily, and also complained of occasional pain on the left side.

The vaginal examination revealed a uterus slightly enlarged, a mass on the left side and a smaller one on the right side.

Operation being decided upon, the uterus was curetted. Abdominal section was then made. The left tube was enlarged in the central portion and adherent to the left ovary, which contained a large cyst. The tube was resected close to the uterus and the cystic portion of the ovary was removed. The remainder was sutured over and fastened to the broad ligament. On the right side the ovary was completely displaced by a cyst, and was as large as an orange and had moved and the tube not interfered with. The uterus was suspended, and the appendix very evi-

dently being diseased was removed. Saline irrigation and closure of the abdomen followed. The convalescence was undisturbed. Examination of the sac showed it to contain a laminated, concentric blood clot.

#### CONGENITAL ABSENCE OF UTERUS AND VAGINA. OPERATION.

DR. J. A. LEE reported the case of an unmarried woman, 26 years old, who, early in October, 1903, suffered a rather severe attack of rheumatism, which was followed by rheumatic endocarditis. The patient was still under treatment for the endocarditis, when in November she developed pain and tenderness in the right iliac region, accompanied by nausea and vomiting, her temperature reaching 101. There was evidently appendical trouble, mild in character, which on account of the endocarditis he hoped might clear up without operation.

Examination revealed an extremely well nourished female, the distinctive characteristics of sex being specially developed, mammary glands and hips. There was tenderness over the appendix and lower down on the right side. In character the patient was mild mannered, reserved and very tolerant of pain.

At this time the reporter obtained the following history. Family history negative. The patient was a strong, healthy child up to her fifteenth year, when she did not take up her menstrual function. At this age, although there were no specific symptoms, she was examined. The physician under whose care she fell decided that her amenorrhea was of vaginal origin, and without making a bimanual rectal examination under anesthesia, attempted to form a vaginal canal by plastic work on the tissues between the urethra and rectum. In less than a half inch dissection the bladder was opened, and as a result of several different attempts to correct the difficulty, the patient still has a vesico-perineal fistula. She has had absolutely no menstrual crises, and the mother (an intelligent woman) said she often searched for evidences of them.

The patient had a severe attack of scarlet fever when eighteen, which was followed by dumbness for several months. This cleared up entirely. Several mornings of each week for years the patient would have attacks of nausea and vomiting while at stool. For years she was able to sleep only for a few hours at night, and sometimes for weeks would lose consciousness, notwithstanding patient was well nourished and healthy in appearance. This completed her past history.

After several days of expectant treatment without relief, operation was advised and accepted. The patient was taken to St. Mary's Hospital, and on November 14th operated on by Dr. Lee.

Upon opening the peritoneum over McBurney's point, an appendix slightly inflamed, but bound down by firm adhesions, was found. The appendix was freed, resected and the stump inverted. A mass was found in the region of the right ovary, and the incision was prolonged sufficiently to obtain a clear view of the abdominal cavity. The intestines and peritoneum were healthy, with the exception of a large number of thin, veil-like adhesions, sometimes binding different coils of intestines together, again binding intestines to the parietal peritoneum. It appeared that the adhesions of the appendix were an exaggerated type of these same peritoneal and intestinal adhesions. As many of these adhesions as possible were broken.

In the pelvis the broad ligaments had their natural position, and behind the symphysis in the folds of the broad ligament was a rudimentary uterus. The fundus was about the size of the tip of the little finger, the body was about half an inch in length, gradually fading away in the broad ligament. On either side, normal in position, were the ovaries, the right was entirely destroyed, its substance displaced by a cyst about the size of a russet apple and containing bloody serum. This cyst was so tense that it ruptured on the first manipulation. The sac was resected. The left ovary, larger than normal, was honey-combed with a number of small cysts. This was removed. The abdomen was flushed, and the wound closed by layer sutures. The recovery was uneventful. The patient suffered no pain and went home in fifteen days.

Her convalescence was rapid, and in two weeks she was able to take walks without pain or discomfort.

On January 15, 1904, Dr. Lee was called and found the patient suffering from nausea and vomiting, which had been gradually increasing in severity for the last few days. At the time he saw her she was unable to retain any food at all. She complained of a tightness in the throat on swallowing. Her pulse was weak and thready.

In the next few days every known medication by the mouth proved ineffectual. The patient was again removed to the hospital for rectal feeding and hypodermic medication, as by this time absolutely nothing was retained by mouth. A diagnosis of hysteria had been made, but considering

the possibility of trouble from old abdominal adhesions Dr. Lee asked Dr. Wood to see the case with him. The diagnosis was confirmed, and upon the advice of Dr. Wood the patient was given five minims of the Liq. Sodii Arsenitis every six hours, gradually increasing. She had the usual rectal feedings, from four to six ounces only, every six hours. For over two weeks the patient could retain absolutely nothing by mouth. After two weeks she began to improve, and in four weeks from date of entrance the patient was eating three meals a day, and left the hospital in excellent condition and spirits.

During this period she rarely slept, and the ordinary hypnotics had no effect whatever. The patient remained in excellent condition except for some slight recrudescences of the endocardial and rheumatic trouble, until the middle of May, when she suffered again from vomiting. This time she was put on rectal feeding and hypodermics of arsenic immediately. Under treatment she rapidly cleared up. On several occasions during this last attack the arsenic was purposely withheld, when the vomiting would recommence, to be checked by the arsenic. He found that seven minims of the Liq. Sodii Arsenitis acted most satisfactorily. Since then the patient has been in fairly good health. The points of interest that especially appealed to Dr. Lee in this case were:

1. The necessity of making a thorough examination under an anesthetic in supposed congenital atresia of the vagina.
2. The peculiar veil-like adhesions scattered throughout the abdomen.
3. The vomiting and its treatment.

#### OESOPHAGEAL POUCH.

DR. W. C. WOOD read a paper upon the above subject and presented a patient. See this issue *BROOKLYN MEDICAL JOURNAL*, p. 189, 1905.

#### Discussion.

DR. J. S. WIGHT said, that Richardson in the *Annals of Surgery* in May, 1900, reported 56 cases of oesophageal pouch, 18 of which were operated on and mostly with success. Mr. Butlin, he said, remarks that the symptoms are often mistaken for those of a pouch above an oesophageal stricture, which would perhaps account for the infrequency. Dr. Wight said there is an operation described by Jacobson, not mentioned in the paper, of invaginating the pouch, making the

incision along the sterno mastoid, and freeing it and invaginating the pouch, and removing it, so as not to open directly into the œsophagus, except through the removal of the sac.

As to the use of the X-rays in determining the presence of the pouch and its location, his experience has been that in all work in the stomach he has failed to locate a pouch with a bismuth solution, as it is not easy to introduce the bismuth solution into the pouch. A flexible metallic cable passed through a rubber tube, which will protect the mucous membrane, is a very valuable means of locating a pouch, its depth, and also for locating the stomach and its curvatures.

DR. W. C. WOOD, in answer to a question as to whether there might not have been a stricture of the œsophagus in his case, said that at times she could swallow well, while at others not at all, and this fact would exclude a stricture.

#### EXTENSIVE ULCER OF LEG WITH SUCCESSFUL SKIN-GRAFT.

DR. J. S. WIGHT reported the case of a male age 25 years, who was admitted to the Long Island College Hospital January 4, 1904. The family history and previous personal history were negative. Eight months earlier he was kicked on the right leg by a horse causing a wound over the tibia. This resisted all efforts at repair and increased in size till the day he entered the hospital when examination showed a large ulcer of the right leg reaching from the instep upward for eight inches and completely encircling the leg except for a strip of skin one inch wide at the back. There was a fusiform mass three inches long and half an inch thick lying over the fibula which was suspected to be malignant. A section was cut from this mass and examined by the pathologist who reported it to be inflammatory tissue. Urine analysis was negative.

The surface was treated for four weeks to secure healthy granulations and then grafted after the Thiersch method without success. March 8, 1904, the entire surface was curretted free from granulations leaving the fascia bare. Thirty-two grafts of various sizes were placed on the oozing area and fixed in position with the high frequency current. A dressing of carbolyzed vaseline 5% was applied, this was renewed in three days and every other day thereafter. Twenty-eight grafts remained fast and continued to grow covering the entire wound by May 28, 1904. There was some loss of the new skin at three points leaving wounds about half an inch in diameter. These areas repaired and broke

down again under the pressure of the bandages and the microbic invasion. Nov. 22, 1904, repair was not complete and the original method of grafting was again resorted to. This was successful. A 20% solution of argyrol has been used for the last two months to harden the new skin with the most satisfactory result so that it is now everywhere tough and leathery.

Successful skin grafting, he said, depends on:

1. A firm healthy base.
2. Sterile grafts.
3. A denuded surface.
4. Absolute contact throughout by pressure or sealing with the high frequency current.
5. Protection against microbic invasion.
6. Toughening of the newly formed surface to protect it from future insults.

#### Discussion.

DR. W. C. WOOD, speaking on this subject, said it was one that interested him deeply. In 1887, at the University of Edinburgh, he saw Prof. John Chiene do an amputation for extensive ulcer of the leg, and he taught at that time that any ulcer that extended two-thirds around the leg, while it could be healed by skin graft by various methods, would certainly return, and therefore was better treated by amputation, and it was said that the City of Edinburgh furnished laboring men, whose legs had been amputated, with artificial limbs.

In Bellevue, Dr. Wood said, they tried these fresh grafts for ulcers of the leg, and they were able to succeed fairly well. A good many of the ulcers healed up, and of those that came back after some months, all showed that the ulcers had broken down. It is possible some of them were permanently cured, but he had never seen them. He had grafted some of these ulcers, because the patient would not accept the advice of an amputation, but he had never permanently cured any leg where the ulcers extended two-thirds or more around the leg. The reason, he said, is this—the new vessels cannot develop in the grafts, and an œdematous condition of the parts below results, so that the ulcerative process usually starts in at the lower edge of the graft.

The method of fixing grafts by electrical currents was something he had heard of, but had no experience with. It might open a better field for this work.

DR. J. P. WARBASSE said his experience had been similar to Dr. Wood's. Within the past two



weeks two cases of this sort had come into his hands. In one of them he did an amputation of the thigh. In the other, the case of a laboring man who had been in two of our hospitals and unsuccessfully grafted, he was trying a more conservative course. In both cases a large ulcer extended from the ankle to the knee. In the second case the man had gone back to work repeatedly, but he was compelled to give up, and he had come to the speaker for amputation. In this case Dr. Warbasse practiced a method which he had used successfully on two other cases. Knowing that these grafts broke down because of the meagreness of nourishment, he believed that that insufficient nourishment is due to the large amount of scar tissue under the skin. Where granulations have existed for a long time, he said, we find deposits of fibrous tissue; and when he had cut into old ulcers he had been struck by the thickness and density of this scar tissue. It has been very evident to him how impossible it would be for healthy skin to grow upon a bed which was so dense with scar tissue, and which was supplied with so few blood vessels to nourish overlying skin. With that in view, some years ago, he attempted the excision of these ulcers, not attempting any skin graft until the ulcer had been excised completely and the scar tissue removed. He did it successfully in the small cases. In this instance, which he was speaking of, the man came for amputation, and he was now attempting to preserve his limb. Whether he should succeed or not was doubtful. Two weeks ago he removed the upper half of this ulcer and cut away the scar tissue, involving a thickness of three-quarters of an inch, until he came down to soft, well-nourished structures. Upon that he grafted. In a few days he expects to complete the grafting. If this is successful he will cut away the fibrous bed of the rest of the ulcer and repeat the operation. He reaffirmed that in small ulcers the operation had been successful. It was a reasonable procedure, he felt sure; and he believed that some of these legs which we have been in the habit of sacrificing can be saved.

DR. C. P. GILDERSLEEVE agreed in the advice given by Drs. Wood and Warbasse, but he thought we ought to make quite a distinction between the origin of the ulcers, *e.g.*, an ulcer such as described by Dr. Wight, purely traumatic and quite likely to happen in a perfectly healthy subject, will respond to local treatment very much better than an ulcer of the same dimensions oc-

curring from constitutional causes. He thought it a waste of time in the large ulcers, to skin-graft or treat in any other way than by amputation, after they have existed a certain time; but those of traumatic origin, he thought, stand a very much better chance of success by local treatment.

DR. J. S. WIGHT said his experience has been that the fibrous tissue should be cut away reaching down to the fascia and that a firm base is required for all grafts; that the ordinary granulation tissue, which appears healthy, does not give as good results as a base as the fascia itself. The superficial tissues are destroyed and permanently, he believed, as was said, and the best we can hope for in these extensive cases is a period of not much under a year before they are firm and the tissues ready to stand the wear and tear of the work of a laboring man. Even then, pressure, irritation and microbic invasion are the common sources of their recurrence, and if they start again they will go right on unless treated in the same way that they were originally. He concurred in the opinion expressed that an amputation is better for a working man than a grafted leg.

#### TRAUMATIC INTRACRANIAL HEMORRHAGE, DEATH.

DR. J. S. WIGHT reported the case of a man, age 52 years, a grocer, with a good family and previous personal history, who was thrown from his carriage. He fell on his head, and received a large scalp wound on the right side of his forehead, and a small one about the middle of the forehead. He remained unconscious from the stunning effect of the injury for a few minutes, was taken to the hospital in the ambulance, the wounds were sewed up, dressings applied, and he was allowed to go home in a carriage. He was seen that day by his family physician, who found him suffering from partial loss of sensation of the lower extremities, their movements slow and showing great exertion, temperature subnormal, pulse about normal. The following day the temperature rose to 99° and the pulse became fuller, there was some vomiting and severe frontal headache. Left hemiplegia was present, but very little marked. The hemiplegia disappeared and the wounds healed up so that he left his bed at the end of three weeks, showing vertigo, irritability, partial anæsthesia, and some muscular weakness. At the end of two months he did some light work. Muscular weakness continued to increase, marking a return of the left

hemiplegia; pain in the head became more severe, vertigo more pronounced, so that his wife was obliged to follow his movements about the house to prevent his falling, avoiding this accident on several occasions by prompt action.

Three and a half months after the accident he became so much worse that he was obliged to take to bed again. The speaker saw him in consultation two weeks later and recorded the following facts: Coma, but removed his limbs freely when disturbed, and complained of pain in his head when aroused. Respiration stertorous and slow, pulse 60, temperature 99 1-5° per rectum. Tongue swollen and coated, and was protruded straight out. The pupils were insensitive and somewhat dilated. He was voiding feces and urine in bed. There was no reaction to the needle prick. The grasp of both hands was feeble. There were rigidity and muscular twitchings of the extremities, and paralysis was more marked on the left side. Urine analysis was negative. A diagnosis of hemorrhage and compression was made and operation advised, which was refused. He grew steadily worse, general paralysis became fully developed, and he went into deep coma and died thirteen days later.

Post-mortem examination showed a large, curved scalp wound, with a radius of about two inches, and its highest point about three inches above the nasion, extending from the middle of the forehead into the right temporal fossa; a small curved scalp wound, about  $\frac{3}{4}$  of an inch long, situated one inch above the nasion, and  $\frac{1}{4}$  of an inch to the left of the middle of the forehead. No atheroma of the vessels. Fracture of the outer table and slight depression of the inner table of the frontal bone at the site of the small scalp wound; some discoloration of the bone resembling necrosis. Removal of the calvarium showed the depression of the inner table to be slightly to the right of the longitudinal sinus. The right cerebral hemisphere was covered by an encysted clot of blood extending from the seat of fracture along the sagittal mid plane for  $4\frac{3}{4}$  inches, measuring  $2\frac{3}{4}$  inches at its widest point, and depressing the cerebral cortex an inch and a half. This came from a pial hemorrhage that had broken into the arachnoid cavity. It had its origin in a venous tributary near the depressed inner table, where there was evidence of recent bleeding. The clot itself showed different stages of coagulation corresponding to successive accumulations of blood. The fourth ventricle contained a small amount of cerebro spinal fluid.

## THE BROOKLYN GYNECOLOGICAL SOCIETY.

W. C. KEENAN, M.D., Editor.

REGULAR MEETING, MARCH 3, 1905.

The Vice-President, J. O. POLAK, M.D., in the Chair.

PAPER: THE PELVIC CONDITIONS OF PRIMIPARAE WHEN THEY ARE DISCHARGED FROM THE PHYSICIAN'S IMMEDIATE CARE.

BY DR. A. M. JUDD.

### *Discussion.*

DR. C. JEWETT said it is very true we do not see most of our hospital cases after two weeks. This is a matter that is compelled by the necessities of hospital economy. Yet it is entirely wrong for the obstetrician to assume the responsibility of quitting his patient at the end of two weeks. The obstetrician in private practice follows his cases for at least four weeks, often still longer. The period of involution is six, sometimes ten weeks, and it is the duty of the obstetrician to keep his patient under observation for that entire period.

The doctor thought that the conditions Dr. Judd found are the inevitable sequences of labor. They are obstetric wounds which had not had time to heal at the end of two weeks. He would find a very different state of affairs after two or three months.

The time required for restoration of hypertrophied and wounded pelvic structures after labor will vary materially in different cases. We recognize that fact in following the involution of the uterus, and it is equally true of the condition of other pelvic structures. He had frequently noted in certain cases that the results of primary reparative operations were unsatisfactory when examined, say four weeks after operation, but were often found quite satisfactory when re-examined a few months later. This is evidence of what is possible by way of spontaneous restoration of the pelvic structures.

To repair all mucus and even many deeper tears of the cervix and the minor tears of the vagina, immediately after labor would surely be a mistake. It is not only unnecessary, but it may be mischievous. The cervix is more or less torn in every labor, yet most of these tears are harmless, and when left to themselves do not call for secondary operation.

The doctor could sympathize wholly with the remarks about the duty of the obstetrician to

leave his patient in as good condition as he found her if possible. But nothing is to be gained by trying to do impossible things, and nothing by supplanting Nature when she is competent, especially when such interference involves risk of infection. Pelvic floor injuries are best repaired immediately, as a rule. When the patient is in bad condition, the attendants exhausted, or the laceration complicated, the work may be postponed till a day or two later. Union is obtained by suturing at any time within a week or more, before granulation is too far advanced. For many years he has practiced repair from one to several days after labor in hospital cases for the purpose of bringing them before the medical class. Equally good results had been obtained in all such operations done within the first seven days or more.

When granulation was well established the wounds were freshened by the use of a gauze sponge. Infected wounds, of course, were left unclosed. In immediate operations on the pelvic floor lateral retractors help materially in displaying the extent and character of the injury.

Satisfactory suture of the cervical wounds directly after labor, when they require suture at all, is difficult and, except when demanded for hemostasis, immediate suture is unwise. The most serious objection to immediate suture is the danger of infection and this danger is not much diminished by waiting a few days.

The risk of infection is greater the higher in the birth canal the interference is practiced. It is insignificant at the vaginal orifice, by no means so at the cervix. The local and the general resistance is at a minimum at the completion of labor and the resorptive activity at a maximum. The invasion of any portion of the uterus at this juncture cannot wholly be freed from risk of infection, even by the most rigid aseptic precautions. Suture of the cervix during any period of early involution, I have learned to my sorrow, is not entirely safe. Very rarely the necessities of the individual case, other than hemorrhage, may perhaps justify the risk.

DR. KEENAN thought that the care and attention of our patients after confinement was always of moment. It is well, therefore, from time to time to have our attention directed to the details of the puerperal state. The regular examination at stated intervals will frequently disclose conditions such as retroversion, sub-involution, and the like, which a moderate amount of care at the time will cure, whereas, if allowed to go un-

treated, later on, extensive and even dangerous operations may be necessary. Too often, especially in the poorer class of our patients, are these precautions neglected. He believed, however, that some things the doctor found, as Dr. Jewett had stated, are the natural result of labor. He noticed in the reading of the paper that the erosions occurred more frequently, and were decidedly more marked, in those cases which were torn, and that would lead him to suppose that these erosions were not what we would call real erosions, but were simply granulation tissue which had not as yet healed. After a time the epithelium would become flattened, and of the same nature as the epithelium in the rest of the vagina or cervix.

DR. R. H. POMEROY said that the essence of this paper is a review and some fresh observations on conditions which may be considered normal in post-partum involution. We had not gained very much in the way of an incentive to do differently than it is usually understood the careful obstetrician will do in the care of his patient. The matter of chief importance is a question as to what we shall do in institutional treatment. In outside cases under the care of the general practitioner, who is expected to do a large amount of work and assume an unmerciful amount of responsibility in the puerperium of a patient for a ridiculous compensation, he was inclined to think that patients as a rule get more than their money's worth.

What recommendations or advice should be given to or impressed upon patients when they leave the immediate obstetrical service in institutions, and whether they should be, if possible, turned over to the gynecological department of the same institution for further attention, involving the difficulties of the care of the child and the difficulties of persuading the patient, in order to restore them to a more normal condition, seem to be the points at issue. These remarks the doctor said, were not meant as criticism of the paper, which is an imperative reminder that the involution period is a long and not a short one.

DR. L. G. LANGSTAFF was inclined to believe this is a matter of importance, that patients do leave our hands and do get out of our view much too early. One difficulty in regard to attending to these troubles that follow labor would be, that we can not get the patient to return to us; that we can not get them to pay as much attention to these conditions as we believe they deserve, and so they neglect themselves as much as we

may seem to neglect them. He believed many of these minor tears—lacerations of the mucous membrane above the perineum—escape our notice. He remembered a short time ago his attention was called to a quite severe one, from the amount of hemorrhage which occurred, while the uterus was contracted, and he found a large lateral tear of the mucous membrane, which otherwise would have gone unnoticed, as the perineum was intact.

There is one other thing about being careful with these patients and watching the condition after labor, and that is that when we discover these minor troubles and inform the patients, we involve ourselves in criticism. It requires a good deal of resolution to draw the patients' attention to them or give these troubles the care they should have.

DR. W. B. CHASE said that the paper had been an interesting exhibit of the conditions which a careful observer shows to patients at the end of two weeks. If he understood the writer of the paper correctly, his proposition was that he recommended the repair of all of these lacerations, both perineum and cervix, before the twelfth day. He took it that this resumé was given from an observation of patients who stayed in the hospital twelve days. Then, again, the doctor's proposition was this: he would recommend within the first two or three days the repair of all lacerations, except the cervix, which would be repaired before she went out.

Dr. Chase said it was a pretty nice question to decide in these institutional cases just where our attention should leave off. Formerly the inclination was, as far as the soft parts of the vagina and the perineum were concerned, to operate immediately; now there seems to be a disposition to wait a day, or two, or three, and he saw no objection to it, because the line of laceration is more plainly marked after a period of a few hours than at any time. On the other hand, he had seen cases, because of inflammatory action beginning at the time, in which there was distortion of the soft parts, which failed to unite.

Of course, all of us, he said, would repair a laceration of the cervix which involved hemorrhage, no matter whether at the time of labor or subsequently. He was inclined on general principles to believe that a laceration of the cervix is better done at a period of several weeks than at a shorter time, and he had a great faith in the power of nature to correct these minor lacerations or tears, because we find few of them at a more

remote period. At the same time, careful observation leads us to the conclusion, that many of us have overlooked these minor tears, and patients have passed out of our observation with these present, because after a period of two or three months, we are not likely to find raw surfaces, except the everted portions of the cervix, or sometimes deep lacerations in the soft structures, where the urine has come in contact and may have interfered with healing.

One thing surprised him in the doctor's statement—that was the depth of the uterus. It did not seem to him that in his observations he found such a large proportion with a uterus which measured about the normal depth of  $2\frac{1}{2}$  inches. The remarkable showing in these 24 cases was, that all but three or four of them showed at a period only two weeks after confinement a depth of  $2\frac{1}{2}$  inches.

DR. CARROLL CHASE thought we might more willingly get our patients to stay in bed long enough following confinement by telling them frankly the reasons why they should; and that while they perhaps would not feel any immediate bad effects from getting up too soon, they might be wondering what was the matter with them a year or two hence.

He believed that, with certain exceptions, the best time to repair tears of the pelvic floor was immediately after delivery. A rather peculiar case showing an exception, was one of edema of the soft parts in a woman with eclampsia in which an immediate repair with perfect co-aptation had to be done over a few days later as the sutures became loose and the surfaces did not meet because of the swelling subsiding.

He said another condition which had not been mentioned, making immediate repair of perineal tears desirable, was the retraction of the torn muscles of the pelvic floor, which sometimes made perfect muscular co-aptation difficult after even a very few days.

DR. J. O. POLAK spoke in regard to the immediate repair of the cervix after labor. He had had two rather bitter experiences from following intermediate repair of cervix, as was advocated some years ago by Dr. Dickinson. He had had two cases of plegmasia alba dolens follow promptly the repair of these lesions, one of which terminated fatally. Both of these patients had gone through a normal puerperium and were repaired at the time Dr. Dickinson advocates, *i.e.*, the eighth day. The puerperium up to this time was absolutely normal and the conditions were

very much as Dr. Judd has described: bilateral laceration of the cervix, some little erosion on the anterior lip—the anterior lip will naturally get the greatest amount of erosion, because it is subjected to the greatest amount of traumatism. Within two days after the repair of these cervixes these women developed phlebitis, and one ended fatally.

Following a large number of these cases that have not had immediate repair, for periods of six to eight weeks after labor it is surprising to see how these cervixes heal, *i.e.*, the eroded surface disappears, the uterus retracts, the cervix goes through its involution, and tears that looked at two weeks and at three weeks as significant, at six to eight weeks, under a speculum examination, were insignificant.

Dr. Polak has adopted the plan with his private patients that they must have local treatment after confinement. He insists that from the time they get out of the house they should be treated once or twice a week for a period of six weeks. A little local blood-letting by boroglyceride tampons has a happy effect on the local conditions. It clears up the erosions and leucorrhea that Dr. Judd speaks of. Dr. Polak asked how would Dr. Judd determine that the discharge is normal; some cases were described as leucorrheal and some as a normal discharge.

One other point had impressed the Doctor: Dr. Judd reported three cases of stellate laceration in uninterfered-with labor. This is a laceration that he had *not* supposed occurred, as often in normal labors, and most of Dr. Judd's cases were comparatively short-time labors.

DR. JEWETT was glad to hear Dr. Polak speak of his cases of infection. Infection he had looked upon as one of the chief dangers of primary cervical repair, a matter which has not been mentioned by most writers and speakers on this question. A few years ago he repaired, three days after labor, a cervix which had been torn in a previous labor. The woman developed a phlegmasia alba dolens, which he ascribed to his interference.

DR. A. M. JUDD, concluding, said that he was perfectly well aware that the normal period of involution is six weeks. He had also spoken of what Nature has done for people. He remembered Jacobi saying if it was not for Nature helping the doctors out, they would fare badly in any case.

He was told by a gentleman in the lying-in hospital with regard to these mucous tears, that

they repaired there all mucous tears of one-half inch. Probably all had seen these lacerations that occurred in the mucous membrane and some of them are pretty large. He would compare leaving these mucous tears or sewing them up to the difference between letting a wound heal by granulation and getting primary union. They certainly did interfere with involution. He has examined in private many cases, and always has the patients return once in two weeks at least after labor for three or four months, and he knew that a great many of them had recovered absolutely. At the same time there are many of them where the cervix does not recover, and he thought that you get a better cervix for subsequent labors and a more elastic cervix on an early repair than you do from allowing a cervix to go for six months to a year when it becomes cystic, and the result of the repair is not as good in his observation as it is after being done early.

In regard to the reasons that are given: As Dr. Langstaff says, it requires some moral courage to tell a patient that she has got a tear, because if you say they are torn they have a great deal of suspicion of your ability.

As to the question of Dr. Polak in regard to what he would regard as a normal discharge and what a leucorrheal, he simply had made the distinction from observation. All these cases have a slight discharge at the end of two weeks, and if it was a whitish discharge which was not sufficient if they were sitting up or standing to soil the clothing, and they would not have to wear a napkin, he would call it a normal discharge. The others being in excess, he called abnormal.

In answer to a question as to whether any bacteriological examination had been made, Dr. Judd replied that there had not been any.

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At the recent meeting of the Suffolk County Medical Society, Dr. Overton, on behalf of the late Dr. Miller's family, of Brookhaven, presented the Society with Dr. Miller's old wooden medicine chest, carried by him on his professional rounds. Many of the medicines he used are still in the chest, wrapped in old pieces of paper. The chest itself and the method of carrying medicine both offer a decided contrast to the medicine case of to-day. Dr. Miller was born April 16, 1784, and died May 17, 1863.

## Brooklyn Medical Journal.

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### ADULTERANTS IN FOOD.

A difference just as wide as that between honesty and dishonesty separates the manufacturer who adds a cheap foreign substance to a food product for his own gain and the other who adds a foreign substance to improve its quality. Both methods, nevertheless, furnish adulterated products.

There is likewise a difference clearly appreciated between adulterants of foods which are inimical to health and those which are merely diluents. The point at issue between Dr. Wiley of the Agricultural Department at Washington and the manufacturers, concerns the placing of a label upon manufactured products which attests the contents of each package. Such a label would enable the consumer to judge whether the adulterant employed were harmful or innocuous.

It is not surprising that the manufacturers oppose a change. In some cases no harm results from adulteration of food products. In many cases it is probable that the adulterated rather than the pure article is preferred by the consumer.

On the other hand, it would appear that only benefit would pertain to the honest manufacturer once the public had become accustomed to labeled products. A vast opportunity for "blends" in other products besides teas and coffees would at once be presented.

The fight against adulteration should unquestionably be continued, if for no other reason,

that absolutely harmful substances, like wood alcohol, for example, may be effectually proscribed from food products.

### THE DISPOSAL OF GARBAGE.

The inauguration of daily, instead of the previously less frequent, collections of Brooklyn's kitchen refuse, will make for healthfulness as well as comfort.

We are compelled to admit to our confrères of other cities that heretofore only three or four times a week has this attention been bestowed upon us. There has nevertheless been a steady improvement of late years in the matter of the disposal of Brooklyn's refuse. It is no longer dumped into the rivers or harbor. The greater part of the garbage of Greater New York is now conveyed by boat to Barren Island where it is incinerated and the greater part of the residue utilized in the manufacture of a valuable fertilizer. This is probably the best means at present available for its disposal; though the facilities should be enlarged, there or elsewhere. Temporary inconvenience, it may be, is caused to the residents of near-by beaches, but the odors at times there noticeable are from the chimneys only and not from the decomposing material itself and it may be a relief to those annoyed to know that smoke however unpleasant is incapable of conveying the germs of disease.

It is likely that a number of incinerating plants each disposing of the garbage collected nearest it might be superior to a single plant. The collected materials should be received in a less fermented and consequently less offensive condition.

Some cities adopt a method of collecting the cans along with the contents, the former then being sterilized with steam before returning them to householders. This has some advantages but it is of questionable application here. Other cities convey their garbage farther beyond the city limits before incinerating.

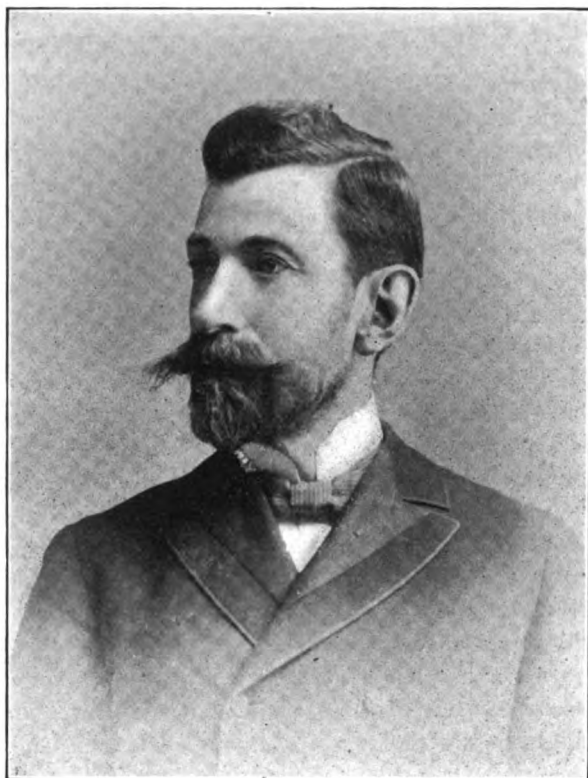
A perfect method of the disposal of garbage is a municipal problem still imperfectly solved and can perhaps be met by no rules of general application, each city and town having varying conditions to be met.

As to the daily collection of refuse, physicians will bestow upon it their hearty approval, householders will be delighted with the possibility of being freed from noisome smells, and only the janitors will object.

## OBITUARIES.

**RICHARD HENRY SULLIVAN, M. D.**

Dr. Sullivan was born in Brooklyn in 1854, the son of James and Catherine Sullivan, and was educated at Seton Hall, Brooklyn, graduating in the class of 1874. His medical education was obtained at the University of the City of New York, receiving the degree of M.D. in 1883. During his professional life he was in practice in this city.

**RICHARD HENRY SULLIVAN M.D.**

Dr. Sullivan was a member of the Medical Society, County of Kings, from 1895, Kings County Medical Association and The Associated Physicians of Long Island. A member of the Twenty-Third Regiment, Company G, and the Veteran Association of the same, De Witt Clinton Council, No. 419, R. A., Columbia Council, No. 14, Loyal Association, Columbus Immediate Relief Association, Union League Club, and the Church of Our Lady of Victory. He married Mary Keely, daughter of P. C. Keely, of Brooklyn. One child, Mary Sullivan, was born.

**WILLIAM SCHROEDER, M.D.,**  
*Chairman of Hist. Com.*

**HUGO W. J. H. KOETHE, M.D.**

Dr. Koethe was born in Deutz Prussia on February 29, 1852, and died in Brooklyn, N. Y., March 16, 1905. His father was William Koethe, M.D., and his mother Juliana Berker, both of Germany. Dr. Hugo Koethe was married on June 6, 1885, to Anna Riedel. One child was born, Werra Koethe.

Dr. Koethe was educated in the Gymnasium and Universities of Germany. His medical education was under the direction of his father, from 1869-71 at the University of Bonn, 1871-73 Univ. of Halle. He received the degree M.D. from the

**HUGO W. J. H. KOETHE, M.D.**

Univ. of Erlangen in 1874. He served as interne in several hospitals in Halle and Erlangen and in 1875 practiced for a short time in Liepsic, Germany, accepting a position as surgeon in the North German Lloyds service, remaining until 1884, in which year he began the practice of medicine in Brooklyn. The doctor held the position of Medical Examiner for the Metropolitan and the Massachusetts Benefit Life Insurance Company. He was a member of the Medical Society, County of Kings, 1894-1905, German Medical Society of New York City, 1887-1905.

**WILLIAM SCHROEDER, M.D.,**  
*Chairman of the Hist. Com.*



## MEDICAL NEWS.

EDITED BY CLARENCE REGINALD HYDE, M.D.

*It is earnestly hoped that all members of the profession possessing news concerning themselves or their friends, which would interest others, will communicate the same to the News Editor before the 9th of each month. Items for this department should be sent promptly to Clarence Reginald Hyde, M.D., 126 Joralemon Street.*

Dr. Morris G. White has removed to 98 Gates Avenue.

Dr. A. J. Capron has removed to the Long Island State Hospital, Kings Park, Long Island.

Dr. George D. Hamlin has removed to 1260 Pacific Street.

Dr. Julien W. Russell has removed to 6 Plaza Street.

Dr. George H. Cruikshank announces the removal of his office to 140 Sixth Avenue.

Dr. William C. Braislin announces his removal to 556 Washington Ave.

Dr. R. C. F. Combes writes that his Brooklyn office will be closed from May first to November first, but that he can be reached by 'phoning 139 Flushing or 143 J, Far Rockaway.

Dr. J. Bertram Dowd announces the removal of his office to Fort Hamilton Parkway and Forty Second Street.

Dr. Walter B. Chase has removed his office to 1045 Prospect Place, corner Kingston Avenue. Mrs. Chase and daughter will spend several months in travel and recreation.

The marriage of Dr. Paul Monroe Pilcher and Miss Mary Finley took place at Montclair, N. J., April 26, 1905.

Dr. Emilie C. Schirmer announces that he will give his entire attention to the study of pathology, bacteriology and clinical microscopy.

The Board of Estimate has recently appropriated \$35,000 to enable the Health Department to make a sanitary census of the city for the purpose of learning the name and physical condition of every inhabitant of the five boroughs. This has long been a pet scheme of Dr. Darlington. The only and last census of this character was in 1895, and carried out by the police. This time one hundred and fifty doctors, employes of the Health Board, will do the work. It is estimated that there are 275,000 houses to be inspected. A card is being prepared which will contain questions to be filled out by or for every person in the city. The questions will cover the physical condition of each, especially with reference to contagious diseases. From the result, Dr. Darlington says that it will be possible to figure accu-

rately the death rate, a thing now impossible, and to determine the comparative rates for different races. He expects to find out also just what regions have been most afflicted by each particular kind of disease, and, as the physical conditions of the city will also be investigated, to determine largely what conditions are responsible for many diseases.

In the Anatomical Department of Long Island College Hospital, Professor Campbell has recently inaugurated a course in clay mouldings in which the students reproduce in clay, models of the bones, brain and other viscera. This innovation is in line with the latest methods of teaching anatomy and is being adopted by the leading medical colleges of America.

An examination for Veterinary Surgeon, grade of First Lieutenant, Troop C., was held April first. This is the first examination held for such a position in the National Guard. The questions on the examination paper are interesting.

### Anatomy:

Describe the carpal bones.

What muscles comprise the shoulder?

### Physiology:

Define physiology.

What is meant by endosmosis?

### Materia Medica:

What is a diuretic? Mention three drugs of this class.

What is a diaphoretic? Mention three drugs of this class.

### Surgery:

In what condition is trephining indicated?

In what intestinal disease is tapping indicated?

At what point is the operation performed?

### Practice of medicine:

What is the treatment of pulmonary hemorrhage?

Technical examination for position of veterinary surgeon:

What is the duty of the veterinary surgeon at "Stable Call?"

What ordinary rules of hygiene should be prescribed as to stables?

Should a horse be bathed?

Should a horse be given water when he is warm?

Why is indigestion more dangerous in the animal than in man?

In purchasing horses for the cavalry service, what condition besides soundness should be considered?

How long should marches be?

State the amount and time for watering and feeding horses.

When should oats be condemned?

State the effects of feeding wheat, rye, bran and corn.

Discuss glanders; its cause, local manifestations, tests for infecti treatment of living and of dead animals, treatment of a stable infected with this disease.

Besides the written questions given there was an oral examination upon the following subjects as provided for in State Regulations:

- A. Knowledge of the English language.
- B. Geography, particularly of the State of New York.
- C. Arithmetic.
- D. History, particularly of the United States.
- A. Camp Hygiene and the hygiene of the horse.
- B. Horsemanship.
- C. Duties of the Veterinary Surgeon.

Candidate: Roscoe R. Bell, D.V.S. (Magill University), 7th Ave. and Union Street, Brooklyn.

Examining Board: Colonel George Ryerson Fowler, Surgeon National Guard; Major Henry P. de Forest, Surgeon 13th Regiment, H. A.; First Lieutenant Albert F. Brugman, Ass't Surgeon 2nd Battery.

The Suffolk County Medical Society will hold its annual meeting at the Griffin House, Riverhead, Tuesday, April 27, 1905, from 10.30 to 2.30. The following programme will be presented: Long Island Appendicitis, Dr. Ernest Gallant, Manhattan; A Sketch of the Life of Dr. Miller, Dr. Frank Overton, Patchogue; Sarcoma of the Spinal Cord: Report of a Case; Autopsy, Dr. W. H. Ross, Brentwood. Secretary, Dr. P. Van Benschoten Fowler, Centre Moriches.

In response to frequent inquiries as to where certified milk may be had, the Milk Commission issues the following list of dealers from whom it may be ordered:

Alex. Campbell Milk Co., 802 Fulton St.; H. S. Chardavoyne, 406 Court St.; Diamond Dairy Co., Sixth Ave. and Pacific St.; W. M. Evans, 250 Hewes St.; Isaac W. Rushmore, 100 Atlantic Ave.; Taylor Plate Milk Co., 202 Fifth Ave.; The Empire State Dairy Co., 502 Broadway.

## BOOK REVIEWS.

**TEXTBOOK OF HUMAN PHYSIOLOGY:** Including Histology and Microscopical Anatomy, with Especial Reference to the Practice of Medicine. By Dr. L. Landois. *Tenth Revised and Enlarged Edition.* Edit. by Albert P. Brubaker, M.D. Transl. by Augustus A. Eshner, M.D. Phil., P. Blakiston's Son & Co., 1904. 102 pp. 8 vo. Price: Cloth, \$7.00.

Landois' Physiology is so well known to the medical profession that this recent English edition of it is sure to be welcomed by progressive practitioners. The arrangement and scope of its contents is similar to that of previous editions, yet every chapter gives evidence of careful revision, and it contains, besides the strictly physiological, a considerable amount of physical, chemical, and morphological data having physiological significance. That a sound knowledge of physics, chemistry, and morphology is pre-requisite for the comprehension of physiology is generally admitted, and though most text-book writers take for granted the possession of such knowledge, Professor Landois has preferred to supply the essential data. A characteristic of the book, and one that especially recommends it to the general practitioner, is the prominence given in its pages to the application of physiologic facts and principles to pathology and the more practical branches of medicine. Another characteristic is the incorporation of separate sections dealing with comparative physiology, and with the history of the subject.

It is not a mere elementary text-book of, nor an elaborate scientific treatise on, physiology, but rather a handy reference manual, containing a very large amount of reliable, and well classified data. In the opinion of the reviewer it is the most useful manual of physiology for the busy general practitioner published in English, and is also a very useful reference book for undergraduate students of medicine.

The translators, as well as the publishers, deserve congratulations for the thoroughness of their work; but, above all, Professor Landois has earned the esteem of teachers of physiology not merely by the labor he bestowed on the original compilation of the work, but also, and especially, by that involved in its many careful revisions.

J. C. C.

**MEDICAL DIAGNOSIS.** A Manual for Students and Practitioners. By Austin W. Hollis, M.D. Philadelphia and New York. Lea Bros. & Co., 1905. 319 pp. 8 vo. Price: Cloth, \$1.00. (*The Medical Epitome Series.*)

This manual, which belongs to the Medical Epitome Series, is a particularly valuable book of its kind. With a compact style and simple arrangement the author has presented in the space of 300 pages a view of the large subject of medical diagnosis which is remarkable both for comprehensiveness and fulness of detail. Student and practitioner will find it a useful book to have at hand for ready reference, and the physician who thoroughly assimilates its contents will be well equipped to diagnose any diseases he is likely to meet. Comparatively little space is given to the subject of general diagnostics, but the different diseases, taken up in the order of their natural grouping, are described clearly and succinctly from the point of view of their symptoms, absolute and differential. Particularly clear and graphic is the description of the physical signs which point to disease of the chest. There are a few well chosen illustrations.

E. E. C.

# BROOKLYN MEDICAL JOURNAL

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## ORIGINAL ARTICLES.

### CYSTS OF THE BREAST.\*

BY WALTER C. WOOD, M.D.

The improved prognosis in cases of malignant mammary disease, that has followed the more radical and systematic surgery now in vogue for these conditions, has aroused well-merited enthusiasm.

This same enthusiasm, however, has induced extensive operations on the breast which have not always been warranted by the pathological findings. Chronic mastitis, cystic adenomata, and even cysts inducing an unreasonable fear of carcinoma in future years have been treated with the thoroughness demanded for that very frequent condition. It seems as if the aversion to removal of a breast on the part of the patient should receive more consideration, and should induce conservative surgery unless the indications for radical work are definite, although the mortality of the greater operation can usually be disregarded.

Concerning the occurrence, diagnosis and treatment of one of these minor conditions, viz., cysts, I desire to call your attention.

The cystic degeneration of solid tumors, or cystic tumors, is not under consideration except from the point of view of diagnosis.

Cysts of the mammary gland can well be classified into those arising from the ducts, and those arising in the connective tissue.

The duct cysts can be further divided into those that appear as single cysts, and those that are multiple.

The nature of these single cysts depends on whether the gland is functioning.

A single duct cyst in a functioning gland, viz., a galactocele, is the first type to be considered. Although a galactocele originates during pregnancy, or lactation, it may remain long after that event, and thus mislead the observer. The cause is some obstruction to the duct near, or at,

the nipple. This obstruction may be a congenital defect in the patency of the duct, or a stricture of the duct from injury or slight inflammation. Warren reports a case where a puppy, used as a breast pump, injured the nipple. I saw a recent case that developed at the time of weaning; yet they are more apt to occur at the beginning of lactation. The onset is rapid. The cyst is formed, as a rule, very superficially, and projects from the gland like a knob. There is little or no tenderness. They are apt to be small, like a pigeon's egg, and seldom larger than a hen's egg. Yet five quarts of milk have been drawn with a trocar, and Scarpa related a case which contained nearly ten pounds of fluid. Cooper was the first to notice that the lump increased in size during the act of suckling. The contents vary. A newly formed galactocele contains fluid milk. Older ones contain curds, or inspissated fat, like butter, or serum with cholesterin crystals. A very old one may shrink and harden, become surrounded by fibrous tissue; and the London Hospital Museum contains such a specimen removed under the diagnosis of scirrhus. A few cases are on record, where a collection of caseating milk has been found in connection with a cystic adenoma, or carcinoma.

While the usual type is superficial, it is said that this cyst has also been found within the gland, and has existed in more than one place—even four being reported in the same breast.

*Diagnosis.*—A swelling forming quickly in a parturient woman, having cystic rather than inflammatory characteristics, is in all probability a milk cyst. The history of such a formation, even in a patient who has not been pregnant for years, points in the same way. Gross says, that an old galactocele, when palpated, may retain the impression of the fingers like putty or a fecal impaction. An exploration puncture, alone, will make the diagnosis positive.

*Treatment.*—Incision, with packing so as to insure healing from the bottom, is the proper treatment. During lactation, unless the cyst is increasing definitely in size, operation can be deferred until lactation is over.

\*Read at the April meeting of the Brooklyn Pathological Society.

The second type of cyst is the single cyst in a non-functionating gland. These cysts usually lie near the nipple, and it is one of their characteristics that they vary in size coincident with the intermittent discharge of their contents from the nipple. They are small, because they are prone to such a discharge. Such a case, which is typical, was recently under my care. The patient noticed a hard, painless lump about one inch from the nipple. While palpating it, a discharge of clear serum came through the nipple. For six months, she noticed several times a week that her clothing would be stained by a clear fluid, and that the lump would be present or absent on different occasions. Then after handling it one day a bloody color appeared in the discharge. This blood-stained serum alternated with the clearer fluid on the various days. Soon a low-grade infection developed, and the discharge became seropurulent. At last the septic conditions increased sufficiently to give pain, so that the small lump was removed. It consisted of a thickened duct with the seropurulent fluid.

These cysts have a varying clinical course. Sometimes, after discharging more or less frequently, they collapse completely and do not refill; thus attaining an apparently spontaneous cure.

Some of these single duct cysts never discharge from the nipple, and thus continue to increase in size, although the growth is slow—a pint and a half being the largest case I have seen recorded.

These duct cysts are prone to the development of intracystic papillomatous growths, which more or less completely fill the cyst. Unless it is noticed that these growths do not penetrate the wall and are entirely intracystic, such a cyst may be mistaken for a cystic degeneration of a tumor. The fluid in such a cyst is apt to be green, black or brown—due to old hemorrhage from the papilloma. These papillomatous growths are, I take it, similar to those appearing on the walls of ovarian cysts, or on mucous surfaces, viz., the bladder, which, perhaps more than any other benign growth, have a tendency to malignant degeneration.

The diagnosis of a duct cyst that discharges from the nipple is easy. If no discharge is present, aspiration is necessary for diagnosis. If the fluid is clear, the cyst can be incised, cauterized, and healed from the bottom.

If it is not clear, and the papillomata are found, the cyst should be excised, or, in cases well developed, the safer course is removal of the mam-

mary gland. This does not mean the radical operation of extirpation of axillary contents, pectoral muscles, etc.

The multiple duct cysts also follow two types.

The first variety is a sequela of uncured, chronic interstitial mastitis. As is well known, this condition may involve a single lobule of one breast, but more often exists to a greater or less extent in both breasts. In common with other interstitial connective tissue inflammation there is a tendency to contraction. This contraction results in the closure of the ducts in many places throughout the gland, so that multiple occlusion cysts are formed. These, at first, are small in size, hard to the touch, and easily moved under the examining finger. If a thin patient, it is noted that there are very many such nodules throughout the whole gland; yet where the original inflammation has been confined to a single lobule, the cystic condition may also be limited and not diffuse. The preceding mastitis may have been insidious in character and have given no frank symptoms. As time passes, one or more of the cysts is apt to enlarge so as to reach the size of a walnut, or even an egg, and give a definite hard lump that does not fluctuate, but presents many of the features of a solid tumor. Inasmuch as the preceding mastitis may have resulted in a contraction of the nipple and also in slight involvement of the axillary glands, the case may suggest a malignant disease. Yet a more careful examination will show the presence of many smaller lumps in the same breast; while it is well known that carcinoma is always a single tumor in the mammary gland. It is also to be noticed that the skin is not in any way involved in this condition, and its movements over these cystic lumps is in no way restricted. Most of the patients that I have seen have been unmarried, or sterile women approaching the menopause. It is said that some of these cysts may develop papillary, intracystic growths, but I have not seen this type. A few of these cases have developed that rare variety of carcinoma known as duct cancer, which, although from the microscopic standpoint is malignant, yet shows little or no tendency to return. I recall a patient from whom I removed both breasts for cystic disease, several years ago, where one was reported by an expert pathologist to be duct cancer and the other showed no such degeneration.

*Diagnosis.*—In these cases diagnosis is usually easy, yet in the less common type involving only

part of one breast, it may need confirmation by the aspirating syringe.

*Treatment.*—It seems to me that these cases require the removal of the mammary gland alone, but not the radical operation for carcinoma. I have removed many such mammary glands by the Thomas incision along the lower border of the breast, enucleating the gland from behind and often leaving the nipple. The cosmetic effect does not annoy the patient, and I have never seen malignant disease develop subsequent to such conservative procedures.

The second type of multiple duct cysts is not always differentiated from the cystic disease just described. However, it seems to the writer to be a physiological process and not a pathological lesion. If the breasts of aged women are examined, they will almost universally be found to contain a large amount of very small nodules the size of a pea, which show little or no tendency to increase in size. In old age, the parenchyma of the gland is absorbed, leaving distorted and shrunken lacteal ducts. As a result of this shrinking process, some of the smaller ducts are cut off, leaving slightly dilated tubules containing dark colored, thick fluid. While it is possible that one or more of these cysts may enlarge, yet such is not the rule. It is probably wise to refrain from subjecting these aged women to any surgical treatment, unless definite evidence of growth takes place.

There is another type of cysts that seems to have no connection with the ducts, yet the origin of which is obscure. Clinically, however, they seem a distinct variety. Shields considers that they arise in the connective tissue spaces of the gland. These occur in younger women, and are single as a rule; although two have been found in the same breast. They give no history of having discharged from the nipple, nor of any previous mastitis. They are deeply situated in the gland, are globular in shape, hard to the touch, giving no evidence of fluctuation nor tenderness. They have thin walls, and no papillary intracystic growths. If aspirated, they entirely collapse; so that on palpation, all evidence of their presence disappears. I have done a radical operation on such a breast, believing that I was dealing with a malignant growth, and only realizing the mistake after section of the gland. The absence of multiple, minute masses in the same gland, as well as in the opposite breast, will distinguish them from the cystic degenerated breast with one or two of the cysts enlarged more than the rest.

The treatment of these cases is exceedingly simple. If on aspiration alone, the cyst entirely disappears, and if the contents is a clear fluid, thus excluding papillary intracystic growths, it may confidently be expected that the cyst will not refill. R. Abbe writes very enthusiastically on this simple method of treating these cysts, and says that the prognosis is excellent. If, however, the cyst does not entirely collapse, nor the fluid prove to be clear, it is wise to open the breast from beneath—removing it, or not, as is necessary.

In closing, I desire to emphasize the English rule, that seems to be more honored by us in the breach than in the observance, viz., always aspirate a non-ulcerating breast enlargement before doing a modern radical extirpation. I do not advocate temporizing with any breast enlargement. Such a course is too common, and is the cause of many deaths and much discredit to the profession. Yet all breast surgery, and especially the modern radical extirpations, should be controlled and justified by the exact lesions present.

#### OBSERVATIONS ON THE DIAGNOSIS OF CARCINOMA VENTRICULI.\*

BY HENRY G. WEBSTER, M.D.

My excuse in presenting a paper on this subject must be found in the interest that attaches to the determination of a most insidious disease that often baffles the most expert, and the early diagnosis of which is of such paramount importance to the patient. In point of fact, the growth usually reaches a large size before its existence is suspected. One reason for this is found in the fondness of the general public for treating their own gastric ailments with the proprietary preparations that have multiplied so rapidly of late, but we must confess that a tendency on the part of the medical profession to treat gastric disorders with too little seriousness, and the failure to establish a correct diagnosis accounts in a large part for the ill success in treatment.

Carcinoma may attack the stomach in one of three clinical forms—scirrhus, medullary and adenocarcinoma. Their proportion may be stated as 6 to 4 to 1 in the order named. Of these, scirrhus causes infiltration, with pyloric stenosis, the medullary ulcerates and holds the pylorus patent, while hour-glass contraction of the stomach is more apt to be due to adenocarcinoma.

\* Read before the Associated Physicians of Long Island, January 28, 1905.

The frequency of carcinoma may be estimated in this country by the statistics of Johns Hopkins, Massachusetts General and Montreal General Hospitals, where it embraced respectively 1.7%, 1% and .57% of all medical cases admitted. As, however, the diagnosis was not substantiated by operation or necropsy in every instance, these percentages are possibly too high. Heredity and environment play some part as causative factors, as does direct traumatism. Fenwick found a family history of carcinoma in 13% of all cancer cases, and in 6% of the gastric cases, while in his private practice the percentage increased to 16, the smaller proportion in hospital patients being due to ignorance of their forbears. There is no doubt that residence in certain districts, and even in certain houses, sometimes acts as a predisposing cause. The fact that cancer often has its starting point in an old gastric ulcer, and not infrequently has foreign bodies, such as fish bones and bits of oyster shell, imbedded in its substance, indicates the causative relation of trauma. Of occupation I shall say nothing.

The onset of the disease is usually insidious. There are on record, nevertheless, a number of well-marked cases in which the onset was sudden, simulating acute gastritis, with pain, vomiting and rapid emaciation; or there may be only epigastric pain; or in rare instances the first symptom is profuse hematemesis. Any of these varieties may follow exposure, indiscretions of diet or acute disease, such as "grippe." Such cases may be put down at about 10%.

The classical picture, however, is one of slow onset. Pain is frequent. About 14% (Fenwick, Osler and McCrea) of the cases are painless, or there is so little that it does not attract attention as a symptom. It is, in the early stages of the disease, experienced after eating, sometimes intensified by food, probably from direct mechanical irritation; or in some cases by the presence of oxy-butyric acid, and is sometimes relieved by eructations of gas. If the growth is at the cardia the pain is apt to appear at once after eating, if in the body of the viscus, somewhat later, while in pyloric cancer it is delayed, or may appear as a sense of fulness developing into pain. Localization by such subjective sensations must not be regarded too seriously, as they are often fallacious. As the growth increases the pain appears independent of the ingestion of food, and when dilatation has occurred and the relations of the organ are consequently disturbed the situation of the growth does not seem to hold the same re-

lation to the question of pain, which may then be referred to the epigastrium, right hypochondrium, or even to the umbilical or hypogastric region. It is stated that cancer of the body of the stomach is referred to the epigastrium or hypochondrium, while cancer of the cardia affects the chest, throat or sternum. The posterior wall, when diseased, refers pain to the back. In pyloric contraction the point may be in the chest, under the mamma, or between the scapulæ. The pain grows more intense as ulceration advances. I quote the following conclusions from Fenwick:

1. Some degree of pain is present in 85% of all cases.

2. The milder form usually arise from flatulence, while the more severe are due to infiltration and destruction of the gastric tissues.

3. Pain after food is a prominent symptom in 38%, and is almost invariably associated with ulceration of the morbid growth.

4. Severe or constant pain occurs in 48% of all cases. If it arises at an early stage of the complaint, the walls or curvatures are usually affected; but as a late phenomenon it is often due to implication of the peritoneum, or to metastatic growths in neighboring viscera.

5. Its locations and radiations vary with the situation and extent of the disease.

Vomiting is almost always present at one time or another. If stenosis exists, the vomitus consists of the food that has been taken into the stomach many hours previous, often in an unchanged condition. Sometimes it is only mucus, partly what has been secreted by the stomach itself and partly what has been swallowed. Hemorrhage is frequent (almost constant in the form of capillary oozing), and it is this constant loss, which can often be detected in the fasting stomach, that accounts for the rapid cachexia.

Nausea, flatus, pyrosis, constipation, heartburn and coated tongue, loss of flesh and strength, are all generally recognized. Two symptoms not usually mentioned, but often present, are fever and urinary changes. Fever is constantly present, according to Fenwick, in 15% of all cases, and is occasional in 17% more. The chart is remarkably like that of chronic pulmonary tuberculosis, possibly from septic absorption from the ulcerating surface.

Of the urine, it may be noted that the amount is regularly lessened—15 to 30 ounces per diem—with a corresponding diminution of urea. It has been claimed that a urea output of 15 grammes with a chronic stomach disturbance is sufficient

proof of the existence of carcinoma. At any rate a large excretion is strong evidence against cancer. Some time since, during the preparation of an article for the Methodist Hospital Reports, I had occasion to tabulate some 350 urinalyses, at which time I was impressed by the frequency with which carcinoma cases presented hyaline casts in the urine. Inquiry since then tends to confirm this observation, and I am convinced that it is a valuable confirmatory sign in patients with gastric cancer, while absence of casts does not speak against malignancy. Acetone, indican and albumoses are frequently present.

Direct examination of the patient may reveal a dilated stomach, possibly peristaltic movements, engorged superficial veins, retraction of the umbilicus, or a tumor. In some instances, even during the early part of the disease, metastases are found in the skin, though this argues in favor of sarcoma rather than carcinoma. With careful palpation a tumor may be appreciable, especially if it be situated on the anterior surface or along the greater curvature. In thin patients enlarged glands may be detected about the coeliac axis.

In determining the existence of a gastric tumor it must be remembered that the excursion of the pylorus is in a line connecting the seventh right costochondral joint with the left pubic spine. The fundus may be so low as to adhere to the uterus, as in one of my cases. Osler claims the presence of a palpable tumor in 76% of his cases. Some tumors of the lesser curvature become palpable after inflation. In examining, a light touch is preferable, especially in percussing, for a light stroke brings out a dull note, while a strong one, by eliciting the vesiculo-tympanitic resonance of the stomach obscures the true tone. Further it must be remembered that the apparent and real dimensions of a tumor are disproportionate, the latter being often twice the former. Therefore a palpable tumor must be far advanced. Tenderness is suggestive, being often the only symptom elicited by palpation.

Examination of the gastric contents withdrawn after a test meal—Ewald's or Boas'—should show after 1 to 1½ hours little of the ingested food, and free and combined hydrochloric acid, maltose and its precursors, peptone and parapeptone, pepsin and rennet ferment and no lactic acid. The differential diagnosis is said to rest on an abscess of free  $\text{HCl}$ , and an excess of lactic acid in cancer, and consequently the evidences of suppressed or retarded digestion—unchanged

food, the remains of former meals, sarcinae, torulae, etc. The microscope may also show blood and scraps of tissue containing portions of the growth, or, as Hemmeter has demonstrated, cells showing atypical mitoses, and the Boas-Oppler bacillus. Free  $\text{HCl}$  is absent in 89% diminished or irregularly present in 9.7%, and excessive in 1.3%. Lactic acid is present in about 90% of all cases, the absence of hydrochloric acid being a contributing cause for its presence, as are pyloric stenosis and consequent stagnation. It is therefore present in some cases of stenosis with dilatation of benign origin.

I am disposed to regard blood in the stomach contents as most important. It is not sufficient that its presence be demonstrated *once*, but that it be identified in repeated examinations of the stomach both full and fasting. Such constant small leakage is often insufficient to cause melena and can only be recognized by chemical tests such as Weber's or Teischman's. Experience leads me to favor the former as a routine in all gastric analyses. Its technic requires mixing 1 or 2 cc. of the unfiltered contents with an equal amount of glacial acetic acid, then adding tincture of guaiac, which must be freshly prepared, and a few drops of ozonated turpentine—fat oil. A blue color indicates blood.

Cachexia is fallacious. While some patients present early the peculiar sallow appearance so characteristic of malignancy elsewhere, it is not uncommon to see the victims of well advanced carcinoma showing a good, even a rosy color. Two cases of carcinoma at the cardia showed this condition in marked degree, one dying of extension of the disease only three months later.

*Diagnosis from gastric ulcer.*—This condition is probably the one most difficult to differentiate from carcinoma, especially as the latter is often engrafted upon the former, and as in a few instances cancer fails to show increased lactic and diminished hydrochloric acid, but the contrary—hyperchlorhydria—which is apt to accompany simple ulcer. If the pain be accurately circumscribed, and especially if there be a definite point of tenderness in the epigastrium, or one posteriorly to the left of the eleventh or twelfth dorsal vertebra, we may reasonably suspect ulcer. Hematemesis alone is not a reliable symptom, as it appears in about 40% of all cancer cases and may not appear at all in simple ulcer. However, sudden, profuse or repeated hematemesis is suggestive of ulcer, as is a rapid rallying from the resulting anemia. Ulcer is more common in women under 30.



Chronic gastritis may simulate cancer. Its course is less active, hemorrhage is rare, and then only specks of blood appear, lactic acid is not present and appropriate treatment effects a cure. Cachexia is not marked and no tumor presents.

In pernicious anemia hemanalysis shows 2,000,000 erythrocytes or less, high hemoglobin percentage, infrequent leucocytosis and megaloblasts, against more than 2,000,000 red cells, and average of 10,000 leucocytes and low hemoglobin content for cancer.

Pancreatic, hepatic, duodenal, mesenteric, omental and intestinal tumors, while they may simulate a gastric cancer, should be capable of differentiation after a chemical examination of the stomach contents.

162 Halsey Street.

### THE CAUSES OF FEMORAL PHLEBITIS

BY CHARLES H. GOODRICH, M.D.

When we consider the comparative infrequency of phlebitis or thrombo-phlebitis of the femoral vein and its tributaries, its position in our pathology may not seem of great importance, but if we contrast with this the occasional discouraging surprise with which it strikes the physician or surgeon, the severe pain, protracted discomfort, and disability suffered by the patient, and the possibility of tragedy where all seemed hopeful before its inception, its importance expands. Add to this the fact that all writers agree as to the relative obscurity of its etiology, that no methods of treatment have been generally acceptable and satisfactory and we find an interesting field for study.

The causes of femoral phlebitis should be divided into two parts, first part dealing with general causes of phlebitis; part second with causes specific.

That thrombosis of the veins without inflammation may occur without bacterial complicity is readily granted. Phlebitis, or thrombo-phlebitis, on the contrary, has of late years been more frequently considered as associated with, and to some extent, caused by microbic activity. None will dispute the bacterial origin of suppurative phlebitis, that variety starting from close proximity to an infected wound or abscess and leading in many cases to pyæmia, or in cases where such an inflammation is a secondary feature of pyæmia or septicæmia.

Regarding the so-called—and badly called—"simple" phlebitis, however, divers arguments have been offered pro and con, but the literature

of the decade offers so many pro-bacterial opinions, reinforced by bacteriologic reports, that our faith in the occurrence of non-infective phlebitis must almost, if not quite perish. Vaquez<sup>1</sup> and Widal<sup>2</sup> were the leaders in indicating the infectious nature of phlebitis. Laveran found streptococci in the blood of a fatal case of epidemic influenza with femoral thrombo-phlebitis. Haushalter<sup>3</sup> and Quervain found typhoid bacilli and common colon rods in the venous walls and in the thrombi of typhoid cases, and only in the thrombosed portions of the vessels. Quervain found bacilli in the pus of an abscess surrounding the popliteal artery and vein. Tubercule bacilli in cases complicating phthisis have been demonstrated. In puerperal phlebitis streptococci and other pyogenic bacteria have indicated the microbic origin of the condition. Even in cases complicating cachectic diseases, as carcinoma and leucocythemia, bacilli have presented themselves in the inflammatory products and in the walls of the veins.

Still there remain men of large experience, careful observers, who profess to be skeptical regarding the infectious nature of at least certain forms of so-called "simple" phlebitis. In 1895, there occurred a learned discussion in the Obstetric Society of London, where the weight of opinion was against the septic causation of phlegmasia post-puerperal, notwithstanding the vigorous presentation of Widal's experiments and observations. Clark,<sup>4</sup> of Philadelphia, excepts the cases following abdominal section and has constructed an ingenious theory to substantiate his belief. This will be taken up later in our paper.

Dodwell<sup>5</sup> regards the phlebitis complicating phthisis as primarily a thrombosis, the phlebitis being secondary and incidental to the general infection of the body common to the late stages of tubercular disease. Some regard the chlorotic cases as non-infective.

The writer, however, claims that we are justified in considering that all cases are caused, at least in part, by bacteria when we recall, first, the bacteriologic reports from many sources. Second, the effect on the general circulation, far more profound than the mere obstruction would impose. Further ground for this position will be found when we take up the consideration of the specific causes of this malady.

#### GENERAL CAUSES (OTHER THAN MICROBIC):

1. Slowing of the blood-current may be a factor in causing phlebitis, especially as exemplified

in the case of low fevers, endocarditis, cachectic conditions, and in persons long confined in bed from any cause. Furthermore, I would suggest the influence on the speed of the blood exerted by prolonged anesthesia or by true surgical shock.

Yet the proportion of cases of phlebitis where this causative factor could be even suspected is hardly more than a majority, and a considerable percentage occur when the circulation has seemed satisfactory. Virchow held for many years that all cases were caused by lowering the blood-pressure and disposed of them under the caption of "marantic-thrombi."

2. Allied to this first cause is the flexion of joints. We find that the majority of all cases of phlebitis occur primarily in (a) the femoral just below Poupert's ligament; (b) in the popliteal vein behind the knee; (c) in the basilic vein. Thus we may assume that a large vein is predisposed to inflammation when it is so situated as to be often compressed by the naturally frequent flexion of a joint, this pressure retarding the blood current.

3. Fixations of venous walls to fascial layers or to periosteum may play important parts in predisposing to thrombo-phlebitis, and

4. The presence of numerous valves of the veins have been given credit for a minor influence. Both of these conditions may form reasons why inflammations of the common femoral, its tributaries, and its continuations, the external and common iliacs, are more frequent than any other phlebitis.

5. Von Recklinghausen<sup>6</sup> has held that the slowing and irregularity of the blood-current does not so much predispose to thrombosis as the whirlpool or eddying movement which must take place in the blood where one current is injected into another at right angles, or against the stream, slowing the periphery of the blood.

6. Varicose veins, with their relaxed walls and diminished blood pressure, are favorable sites and evident causes of inflammation.

7. Weakened heart action and (8) a contracted arterial system should be enumerated among the general causes. Indeed, these may be important elements. Notwithstanding the above enumerations, "The consensus of opinion is opposed to the belief that any mechanical interference with the blood-speed or blood-pressure constitute sufficient causes for phlebitis, or even thrombosis" (Welch).<sup>7</sup>

9. Hereditary predisposition may be rated as a possible cause. Roussel<sup>8</sup> reports cases occur-

ring in a mother and two daughters.\* Paget also mentions an instance to which we soon refer. We are told that others have been reported, but our study has not revealed them.

10. Toxins, products of remote processes of inflammation, are credited with causing chemical changes in the endothelial lining of veins, which may diminish the normal influence toward maintaining the fluidity of the blood. This may be followed by accumulations of fibrin and thrombosis. Thus may be formed a very suitable culture-bed for alert bacteria. Welch has seen nodular deposits of lymphoid tissue in the intima with and without necrosis, and this in some cases where bacteria were not demonstrable. This, he argues, supports the toxin idea.

11. Age seems to exert no influence in the etiology of femoral phlebitis, save that many more cases of the diseases or conditions causative occur in active adult life.

12. Occupation has seemed to be a factor. The majority of medical cases reported have occurred in persons whose work compelled standing or walking most of the time.

#### SPECIFIC CAUSES.

These will naturally be classified as medical and surgical, with obstetric cases included under the latter.

#### MEDICAL CAUSES.

1. Typhoid fever. Ever since Bretenneau in 1813 described typhoid as a distinct form of febrile disease, the femoral vein and its tributaries have been recognized as occasional complicating factors. We now know that what has been called "obstruction" and "thrombosis," is phlebitis with thrombosis. It usually occurs in the left femoral, sometimes in the right, and not infrequently in both veins. Often the most violent inflammation is limited to the internal saphenous, less commonly to the external. The most recent and satisfactory demonstrations tend to establish the dictum that here the primary lesion is an endophlebitis, caused by the typhoid bacillus, and the thrombosis occurs as a result of alterations in the intima, which give rise to the formation of thrombotic masses. In these thrombi typhoid bacilli, common colon bacilli and streptococci pyogenes have been demonstrated.

The first and the last have been found in the intima and media of veins involved. Murchison tells us that the frequency of the trouble in typhoid patients is about 1 per cent. De Costa<sup>9</sup> observed thirty cases among the soldiers treated at the Pennsylvania Hospital in the autumn fol-

\* All puerperal.

lowing the Spanish-American war, about thirty per cent. of cases treated. Eighteen of these occurred after convalescence was established. Nearly all the balance began late in the course of the fever. The astonishing frequency may be accounted for by the constant upright position necessary in the soldier's life. Relaxation of the venous trunks in the lower extremities might thus very well be caused. Yet, De Costa believes that excessive virulence of infection operated largely. Several of these cases suffered from double femoral phlebitis. One was preceded by erysipelas (location not recorded) and parotid abscess. Another had just recovered from a double epididymitis. In this series no deaths were noted.

2. Pneumonia.—Whether or not the diplococcus pneumoniae is the definite exciting cause in these cases is not proven. Streptococci have been demonstrated in the walls of the veins and in the thrombi. The onset is invariably after defervescence, although Katz<sup>10</sup> reports one case occurring on the day of the crisis. Laache<sup>11</sup> reports a case of pleuro-pneumonia followed by left femoral and saphenous phlebitis. This case is cited because many authors mention that pleuritic pain usually precedes, by a day or two, femoral phlebitis from any cause.

Nourse's<sup>12</sup> case followed left lobular pneumonia in a woman of thirty-six years, and was also left sided. This patient had suffered from varicose veins in each of six pregnancies, and once had "phlegmasia." Kob<sup>13</sup> reports an instance of death from embolism of pulmonary artery twenty-three days after onset of phlebitis of the right femoral and tributaries. Here the first evidences of the process were in the external saphenous, and later in superior veins, a tumor appearing in the region of junction of internal saphenous and femoral. Death was preceded by sudden fainting and a few moments of labored breathing.

Porte<sup>14</sup> reports right femoral phlebitis in a female of forty-eight after right apical pneumonia. The femoral invasion was followed in a few days by a sudden dyspnoea, fainting, rapid, irregular pulse and exceedingly high temperature, succeeded by death. Autopsy revealed a hepatized right apex, entire obliteration of internal saphenous and arterial obliteration at the base of left lung. There was also a clot adherent to the tricuspid valve.

De Costa reports three cases. In each case left lower lobe was involved in pneumonia. One case developed phlebitis in both femorals in

fourth week, far along in convalescence. Another in left and the third in right. All recovered but resolutions were tedious. Lee Dickenson has reported seven cases, the account of which I have been unable to locate. Post-pneumonia phlebitis seems more prone to fatality than that following other medical diseases. Our study has, however, been too limited by the infrequent writings on the subject to permit of the making of comparative tables of any value.

3. Epidemic Influenza.—One of the earliest cases reported from this cause was that of Dauriac, of Bordeaux, in 1841. It developed toward the end of the course of the primary disease. Clutton,<sup>15</sup> in 1898, reported seven cases, all beginning before convalescence was established, the latest case having its onset three weeks after the initial symptoms. He argues that the occurrence of phlebitis may be a guide to correct diagnosis in many obscure cases. This seems unreasonable because (1) phlebitis is caused by so many diseases; (2) even in these cases its appearance is often very late. In all I have found thirty-four cases of "grippe" phlebitis in the literature.

4. Acute Articular Rheumatism causes phlebitis of the femoral vein and its tributaries. Garnier<sup>17</sup> reported two cases, both especially interesting because a complicating endocarditis preceded the venous inflammation in each case. Both recovered. One suffered from basilic phlebitis in the same (left) side after the femoral inflammation was well under way. The same writer collects twenty-four cases from literature. Of these cases, thirteen had primarily developed endocarditis, and eleven pleurisy with pneumonia or pulmonary congestion. These seem to his mind to bear some causative relation to the phlebitis. He believes that the infection of the venous tunic occurs either from direct infection of micro-organisms floating in the blood, or from minute infectious fragments sent along the circulation from heart valves or from pulmonary capillaries. He lays great stress, however, on the predisposing influences of the slowing of blood-current and the abnormal proportion of fibrin in the blood of rheumatic patients. All cases in his series occurred in persons compelled by their occupation to stand nearly or quite all their working hours.

Combemale and Herin<sup>18</sup> record a case preceding an attack of rheumatism and diminishing rapidly as the outbreak of the latter became typical.

5. Gout has been etiologically associated with phlebitis, especially of the femorals, for many decades. Such a phlebitis may complicate the commonest gouty inflammation, that of the foot, or may occur without this in patients having gouty diathesis. It is very apt to be of symmetrical type. Sir James Paget<sup>10</sup> long ago called attention to its tendency to occur in patches. He also remarked its frequent recurrence in the same subject and that a strong hereditary predisposition is often found. One of his patients recalled seven relatives who had previously suffered attacks, including his father, mother, and maternal grandmother, two uncles and two cousins. Paget's essay on Gouty Phlebitis is the best literature on this subject which I have been able to find.

6. Pulmonary Tuberculosis.—Most commonly in this disease phlebitis is a late complication in chronic cases, but occasionally is seen in the acute forms. It almost invariably shows its first evidence in the lower leg, the pain and œdema gradually creeping upward.

Dodwell,<sup>5</sup> in his most careful study, considers that here the thrombosis precedes actual inflammation, chiefly because the swelling precedes the pain, vein tenderness and increased fever by several days. There is less tenderness than in the average cases. Dodwell does not doubt existence of true phlebitis in these cases as some observers have done, and accounts for slight or absent inflammatory symptoms by the fact that "The asthenic condition of phthisical patients diminishes the reaction to severe lesions." Vaquez<sup>20</sup> tells us of a case of non-obliterating phlebitis of both sides, especially severe on the left. In this case also the first sign was perimalleolar œdema. Shooting pains in legs followed. Death from primary disease came before resolution of veins. Clots filled the popliteal veins, and the vasa vasorum were obliterated. In one case Vasquez found tubercule bacilli without other bacteria in phlebitic thrombi of left femoral and profunda veins, but most frequently streptococci or other pyogenic organisms were demonstrable.

7. Syphilitic Phlebitis occurs in two classes—(Henzard) (a) acute cases accompanying the secondary stage, and (b) chronic cases, with multiple gummata of venous wall, or a general sclerotic process. Proeksch,<sup>21</sup> of Bonn, in 1898 culled one hundred and seven cases from the literature. He divides them into intra-parenchymatous and extra-parenchymatous classes.

8. Scarlatina is recorded by many text-book

writers as a cause of phlebitis. The only case found in literature occurred in the veins of the upper extremity and brain.

9. Chlorosis (anemia of young women) is not very infrequently complicated by phlegmasia alba dolens. The cases reported have all been extremely anemic. Rockstro<sup>22</sup> observed three cases in virgins, two of eighteen years and one of twenty-one. They all suffered severe pain with rapid weak pulses and high temperatures. One case followed immediately after an attack of dry pleurisy. Multiple attacks of faintness preceded phlebitis in one case. In Herman's<sup>25</sup> case hæmoglobin was reduced to 48 per cent., and red blood cells to two and a quarter million. She made very poor recovery, some degree of œdema persisting. No pelvic lesion existed. Both lower extremities were involved. Mowat's<sup>23</sup> case in a virgin of eighteen relapsed several months after apparently complete recovery. Kidd<sup>24</sup> found that his patient who had had three attacks of diminishing intensity, was rapidly and favorably influenced by the treatment of the anemia (right side).

10. Typhus fever may be followed by femoral phlebitis. As far back as 1831, Prof. Laurie, of Glasgow, recorded his own case. Paget quotes from a personal letter from Laurie received in 1858 concerning it.

11. Gonorrheal cases are comparatively rare, but cases are recorded by Martel and Perrin.

Causes mentioned in various works, but case examples of which I have been unable to find, are:

12. Dysentery.
13. Variola.
14. Suppurative tonsillitis (or peri-tonsillitis).
15. Measles.
16. Asiatic Cholera.
17. Relapsing Fever.
18. Primary Endocarditis.
19. Carcinoma.
20. Leucocythemia.

In concluding this discussion of the medical causes, I would call your attention to these points: (1) The left femoral is the vein of least resistance; (2) the frequency with which secondary pleurisy or endocarditis precedes femoral phlebitis; (3) that contribution of detailed reports, with bacteriologic observations, whenever they are possible, are greatly needed in our literature.

Before considering the various surgical causes of femoral phlebitis we should recall that the left femoral vein and its tributaries are involved

more frequently than the right in the approximate proportion of four to one. The reasons commonly assigned are:

1. The greater length of the left common Iliac vein.
2. The greater obliquity of the left common Iliac vein.
3. The pressure of the right common Iliac artery, which lies in front of, and in the dorsal position of the body, upon the left common Iliac vein.
4. The pressure of the Sigmoid colon, especially when loaded with fæces or distended with gas.

#### SURGICAL CAUSES.

1. Varicose veins are in some cases the only evident cause. Extreme forms of inflammation are often encountered in this class, and the result may be an increase in the size and number of varicosities or more or less fibrous. Shields<sup>28</sup> relates an interesting case in a physician past middle life. The patient had suffered from varicose veins for thirty years and had long worn an elastic stocking. When first examined after the onset of inflammation there was great œdema of entire lower limb and a vascular tumor about the size of a hen's egg just below the knee. Against Shiel's advice he insisted on attending his large practice in spite of severe pain. After several weeks he displayed a complete cure of his varicosities, the veins having become fibrous cords. I have observed three cases of phlebitis in varicose veins, without this beneficent result.

2. Infected wounds and abscesses in proximity to the veins are not only frequent causes of phlebitis, but by so infecting the venous tracts may produce pyæmia. On the other hand

3. Pyæmia of remote origin may number phlebitis among its subsidiary pathologic processes.

In these cases we naturally expect the suppurative variety. One such case came under my care about two years ago. Dr. Stephen Lutz, in a recent personal conversation, mentioned the occurrence of a suppurative phlebitis of the right lower extremity following about two weeks after operation for mastoid disease and brain abscess. Two suppurating foci developed, one at ankle and one in upper thigh.

4. Puerperal cases have been recognized under various names as far back as one reading will permit us to search. Even now the term "Phlegmasia Alba Dolens" is the favorite. Here we must forcibly reiterate our belief in the infective origin of the process. It is interesting to note

the fact that the obstetricians who regularly use the strictest aseptic precautions are among those who insist upon the infectious nature of "phlegmasia," and who state that "in spite of efforts to conduct labors in a thoroughly aseptic manner infection must have entered the veins." Ahlfeld thinks that the cases may be caused by streptococci which he states are "probably present in all vaginæ." This view is hard to accept because of:

1. The varying degree of general infection.
2. The varying degree of venous infection even where general involvement of veins of lower extremity exists.
3. The small proportion of cases which go on to suppuration.
4. The large variety of bacteria, the existence of which has been demonstrated in the female genital tract.

Moreover, many writers feel certain of the antiseptic properties of the acid vaginal mucus, and consider that more than ordinary injury or infection is necessary in order to transform the vagina into a culture-bed.

The consensus of opinion on the mode of infection in puerperal cases, briefly expressed, is that any pathogenic bacteria may infect coagulæ in mouths of the veins at the placental site. From this point the inflammation of venous walls extends by way of the uterine plexus to internal iliac vein, to common iliac vein, and thence by retrogressive trend to external iliac, the femoral and its tributaries. (I mention the "uterine plexus" as distinguished from pampiniform plexus as specified by many writers because the former is the direct channel. The pampiniform plexus empties into the inferior vena cava on the right and into renal vein on the left, thus making a longer route to iliac and femoral veins. Moreover it is the uterine veins which receive the original infection.)

Several contributing causes of puerperal phlebitis may be enumerated, such as:

1. Post-partum hemorrhage.
2. Accidental hemorrhage.
3. Placenta prævia.
4. Useless douches soon after delivery.
5. Incomplete contractions of uterus after delivery, permitting accumulation, retention, decomposition and infection of clots.
6. Intra-uterine manipulation.
7. Retention of fragments of placenta or membranes.
8. Supernumerary placenta.

These cases may or may not be associated with peri-venous suppuration notwithstanding the general impression prevailing that puerperal cases are non-suppurative. One of the most presented by our own Dr. Raymond.<sup>27</sup> Three carefully reported cases of the purulent class is collections of pus were evacuated, one in the thigh, one at the knee, and one at the ankle. The course was one of extreme prolonged general sepsis, but terminated in recovery. Hunter<sup>29</sup> relates a non-suppurating case beginning only three days after normal labor (an early onset), with the sudden development of motor aphasia and right hemiplegia on the fourth day followed by death (cerebral embolism). In this case there was no cardiac lesion. His patient had used her sewing machine excessively for several days just preceding her accouchement. Kortright<sup>30</sup> mentioned two cases, in both of which labor was complicated by hemorrhage, one accidental, the other post-partum. Lange and Delatour's<sup>28</sup> case followed normal labor aseptically conducted. Onset in right femoral occurred on sixth day. On the ninth day, after a pronounced chill, followed by renewed rise of temperature, a gangrenous section of cervix was excised. On the twenty-second day the left lung became infected (by infarct). Several days of extreme pyrexia were followed by gradual improvement until the thirty-sixth day when left femoral phlebitis developed. On the fifty-seventh day a renewal of pulmonary inflammation necessitated early exploration of lung, where an abscess was found and its contents evacuated. After this the patient progressed admirably for three weeks, then perished from double pneumonia, due probably to new infarcts. Hirst<sup>31</sup> states that several cases in his experience have begun as thromboses, receiving infection secondarily. He does not elucidate how he knows this, nor whence came the secondary infection.

#### POST-OPERATIVE FEMORAL PHLEBITIS.

Amazingly successful as the surgical work of the past decade has been, post-operative femoral phlebitis has occasionally arisen, discouraging the surgeon and annoying and endangering the patient. Nor does it usually obtain in those desperate cases where we might expect the worst of any kind of trouble. On the contrary it is so often associated with so-called "clean cases" of abdominal section aseptically conducted under ideal conditions, and where evidences of other infectious processes are entirely absent; with comparatively minor operations; with operations, the fields of which are anatomically remote from the

femoral veins, that many observers have been casting about for a satisfactory non-infectious etiology. Although the evidences of infection of the veins are so often present and no satisfactory non-infectious theory is at hand, contributing causes of a non-infectious nature can be offered.

1. Whereas an abnormal amount of CO<sub>2</sub> in the blood increases its coagulability, and such an increase predisposes to thrombosis, cyanosis during anesthesia may contribute a share of the cause in many post-operative cases. Thus nitrous-oxide gas may be a predisposing factor. It was administered in an unusual case, to be reported in detail presently, as well as in others which I will mention. In response to a question along this line, Dr. Delatour thought that the proportion of his cases had been greatest among those to whom nitrous-oxide had been administered. He also recalled a case following extreme cyanosis during etherization.

I would suggest that, in our operating rooms where records of anesthesia are kept, an account of the presence or absence of cyanosis, its degree and duration, be noted, in order to determine its measure of influence in these cases, unusual as they may seem. Strauch, of Moscow, had three cases develop in eight patients who were etherized, and leaps to the conclusion that ether is a cause of phlebitis and therefore forswears its use.

2. Since my thought has been especially directed in this line I have observed the tendency to pressure over the femorals exerted by the lower bound edge of the long abdominal binder, especially when this is drawn tightly backward by the perineal straps. This might impede venous return.

3. Strauch<sup>32</sup> believes that when the Trendelenberg position is maintained by traction against the leg flexed at the knee, that the fascia lata is made very tense and that the femorals are compressed. This he offers as a cause of thrombophlebitis. At the flexure of the knee direct pressure might obtain. (Many of the newer operating tables are provided with shoulder supports which relieve the traction on lower extremities.)

4. The Lithotomy position may sometimes cause so acute a flexion of thigh on pelvis that the femoral vein may be angulated sharply over Poupart's ligament. This, if prolonged, might entail venous retardation. So much for theoretical contributing causes.

In looking over the various theories of a non-infectious etiology for femoral thrombo-phlebitis

one is so supported as to demand consideration. J. G. Clark<sup>4</sup> proposes this law: "That the usual femoral thrombo-phlebitis which occurs as a sequel to coeliotomy is non-infectious, originating from a primary thrombosis of the deep epigastric veins, which is slowly propagated along the line of the vessel until it reaches the external iliac vein, where it gives rise to a retrogressive thrombus in the femoral vein." He claims that the pressure of retractors, the friction of manipulations in the delivery of abdominal and pelvic tumors or diseased organs, or, in cases of ventral suspension of the uterus, the inclusion in deep sutures, so injure the venous walls as to encourage the production of a non-infectious thrombus which extends as he states in his "law." As bases for his theory he offers:

1. Von Recklinghausen's whirlpool theory, already mentioned, pertinent because of the right or obtuse angles made by the deep epigastrics where they empty into the external iliac veins.
2. Late development of femoral lesion (the average day of onset in his forty-one cases being the fifteenth).
3. Absence of other infectious processes, or lack of coincidence in time where other infections obtained.
4. Predominance of surgically clean cases.
5. Absence of fatality in forty-one cases.
6. Operations on uterine appendages of one side may be followed by lesion of femoral vein of the other side.
7. The fact that plastic operations on the vagina, cervix or perineum are practically never followed by femoral phlebitis.
8. The fact that rectal operations are never followed by femoral phlebitis.

Clark's law on its face, certainly appears to be reasonable. Whatever our convictions we cannot dispose of it without adequate contrary evidences. Such do not exist in literature nor does my experience supply them. Yet believing firmly that the entrance of bacteria into veins is a "*sine qua non*" in phlebitis, I must offer whatever controverts a non-infectious theory.

1. At the outset none will dispute that a blood-clot, an ideal culture medium, can be infected by a smaller number and less active bacteria than tissues possessing resistive power. Hence the possibility of infection in abdominal and pelvic veins during operation may be very great. That the epigastrics may be so infected, and by highly attenuated germ-life, I doubt not.

2. Experience with suppurative phlebitis following labor usually show also the same tardy

onset and slow advance, which Clark calls corroborative proofs of his law.

3. In these same cases (puerperal) suppurative phlebitis occurs without other evidences of infection as in post-operative cases, also non-suppurating phlebitis where a septic metritis precedes.

4. Femoral phlebitis *does* occur after rectal operations. Such a case came under my observation in August, 1903. The patient was an intellectual woman of forty-one years whose duties did *not* require her to stand upon her feet most of the time (*qui vide supra*). Persistent suffering for three years due to anal fissure culminated in so painful an attack that she finally consented to operation, although frightfully prejudiced against sphincteric dilation by medical and lay friends. Anesthesia was obtained by nitrous oxide and continued with ether. The fissure which lay at the base of a marginal hemorrhoid, had been transformed at its upper angle into a granuloma or irritable ulcer. Hemorrhoid and ulcer were ligated with silk and removed. Operation consumed fourteen minutes. It was performed as aseptically as might be in this region after careful cleansing of rectum. She reacted slowly, the pulse remaining weak and thready. The usual rectal pain annoyed for forty-eight hours. Except for a fever of 1 to 1½° F., and some hypogastric distress, the first five days were uneventful. On the fifth day she complained of pain in the left thigh, most intense over the region of Scarpa's triangle. The pain increased with concomitant restlessness until the fourth day of the phlebitis when she became delirious. Even in her delirium her sufferings were as severe as I have ever seen. Pain extended down under side of thigh to knee, behind knee to calf, and finally (please note) progressed upward into left iliac region. Her temperature ranged from 101° to 103° F., for seven days, then gradually fell, striking normal in the morning twelve days after onset and in the evening five days later. Pulse during febrile course was 110 to 130, gradually falling as temperature receded, but not reaching normal for many weeks after convalescence was established. Restlessness was extreme during entire period of pyrexia and to obtain the ideal quiet was impossible. Oedema became evident in foot on the sixth day, and was largely confined to foot, ankle and lower two-thirds of leg. Urine was scanty, of high specific gravity, and contained a trace of albumen once during the violence of attack. On the eighth day a superficial ovoid ulceration ap-



peared over lower third of calf. This was three inches long and one and three-quarter inches wide. There was no pressure at this point.

There was no suppuration. Recovery was very slow, and at last report (after four months) there persisted slight oedema and much aching at times, apparently not depending on the amount of walking done. The rectal post-operative conditions were most satisfactory. The ligature came away on the fifth day, and the anus was unusually free from discharge at all times.

Certain as I am of the aseptic care exercised, I am sure that infection must have taken place, traveling along from the network of veins forming the inferior hemorrhoidal plexus, into the internal pudic, thence to internal iliac and so downward through external iliac femoral, and most of its tributaries. The seat of greatest inflammatory violence was undoubtedly in the common femoral and internal saphenous veins, and the only completely obstructing thrombosis in the popliteal.

The course above traced is reasonable when we remember the slight fever and the hypogastric distress which preceded the femoral invasion by three days. I have thus included the features of this case which seemed unusual, and those which have a bearing on the etiology. No rectal case is found in recent literature, but I recently questioned Dr. C. B. Kelsey by letter concerning femoral phlebitis following rectal operations. He has had one case. To quote from his response: "That was an old lady upon which I did linear cauterization for combined hemorrhoids and prolapsus. The thrombosis came on in the night about one week afterwards and was fatal in about a fortnight, suddenly, from cerebral embolism, we supposed."

5. The post-operative cases which interest the general surgeon most of all are those following procedures for the cure of appendicitis. My experience in this class is limited to two cases. Both were instances of acute suppurating appendicitis, operated upon during attacks. The onsets were on the sixth and seventh day respectively. In both the *left* lower extremity was involved. One case was severe, the other mild. Both recovered. Both were anesthetized with ether. It is in these cases of all abdominal ones, that Prof. Clark's "Deep epigastric law" does not seem satisfying, for the reason that appendectomy by certain routes must almost certainly avoid chances of injury to the deep epigastric vein. In one of my cases it was severed, as the oblique incision was long and free access to pelvis was necessary. Yet in using the inter-mus-

cular incision of Dr. McBurney there could hardly be a possibility of such injury or even ordinary pressure. In my second case this was used and in all four of Dr. Delatour's cases (which follow) the inter-muscular separation had been done. He also informs me that he has never seen a case following the use of the vertical incision at the margin of rectus muscle. Dr. Delatour has favored me with the facts in four cases:

1. Male, adult. Non-suppurating appendicitis. Operation followed by pneumonia, and later by right femoral phlebitis. This patient was deeply cyanotic under ether. (In this case the pneumonia may have caused phlebitis).

2. Female, daughter of Case 1. Typical appendectomy for endo-appendicitis. Ether anesthesia. Left femoral phlebitis.

3. Male, adult. Acute suppurative appendicitis. Nitrous oxide and ether used. Post-operative pneumonia followed quickly by double femoral phlebitis.

4. Female, adult. Acute endo-appendicitis. Nitrous oxide and ether anesthesia. Pleurisy of left side on third day. Left femoral phlebitis on the fifth day.

All recovered.

Two of Clark's cases were in this class. Both were operated upon for chronic recurrent appendicitis during intervals, under ether anesthesia. One suffered from shock and had abdominal pain and distension on the second day. In both, the left femorals were involved and the phlebitis was of a mild degree. The type of the incision is not mentioned.

Halsted found four instances of left femoral phlebitis in 131 cases. Three of these were of chronic recurrent type and the appendectomy was performed between attacks.

Vanderveer<sup>33</sup> relates one case, left-sided, following removal of appendix during interval.

As the veins of the appendix and its mesentery empty into the ileo-colic which terminates in the superior-mesenteric vein, it is difficult to determine any intra-abdominal route by which venous infection can extend toward the thigh. Yet if, in the following Clark's anatomical suggestion, we consider the superficial epigastric vein, and both circumflex iliac veins, we may find direct venous tracts along which inflammation may seek the femoral.

Of the other operations which have been followed by femoral phlebitis, hysterectomy leads in frequency. In Clark's series these were eighteen in number. Vanderveer<sup>33</sup> reports one and Strauch<sup>32</sup> one.

Then follow in order:

Removal of ovarian cysts.

Removal of one or both ovaries.

Ventral suspension of uterus (only cases were reported by Clark).

After the following operations one instance of femoral phlebitis has occurred.

1. Removal of double hæmato-salpinx (Dr. Delatour's case) right-sided femoral phlebitis.

2. Removal of angioma of liver (Vander-veer).<sup>33</sup>

3. Nephrorrhaphy (Clark).<sup>4</sup>

4. Gastro-enterostomy.

5. Incision of lumbar-abscess under nitrous oxide anesthesia. In this case other evidences of sepsis had existed for four weeks preceding operation. (Personal observation.)

6. Radical cure of inguinal hernia (Bassini's operation. (Westbrook).<sup>34</sup>

In conclusion:

1. As we look over the procedures causing post-operative phlebitis we are impressed with the reasons for considering the superficial and deep epigastric veins, and perhaps the circumflex iliac veins, as leaders in the inflammatory procession, in some cases, and yet

2. There must be other routes.

3. Bacteriologic studies in this class of cases have not been made, nor can they be often followed in the future. But when we recall that in every class of phlebitis cases which have been studied by the bacteriologist, pathogenic bacteria have been demonstrated, can we scoff at the idea of infection in post-operative instances?

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33. *Amer. med.* II., 66.
34. Personal communication.

#### THE URIC ACID DIATHESIS IN CHILDREN.

BY ROBERT TAYLOR WHEELER, M.D.

Text-books and literature dealing with pediatric subjects contain very little in regard to the rôle uric acid plays in the diseases of children or concerning the differences in symptomatology in uricacidæmia in childhood and adult life.

There are probably many reasons for this, among which may be mentioned the fact that up to a comparatively recent period the number of diseases of children, known absolutely to depend on the presence of an excess of uric acid in the system, have been relatively very small when compared with other infantile disorders. However, with closer laboratory experiments recently made to determine the rise and fall of the uric acid tide before, during and after certain bodily disturbances, we are inclined to attribute to this form of faulty metabolism a greater list of diseases than formerly.

The questions arise:—How great a part does heredity play in this class of diseases? And, again, Is there such a thing as the uric acid diathesis?

Many observers, even those who lay great stress on uric acid as a cause of disease, deny the existence of an uric acid diathesis, claiming that the condition is wholly an acquired one, and due only to a faulty dietary, but it seems to the writer that while it may be admitted that a continued diet too rich in the nucleins may produce symptoms of uric acid poisoning in one child, yet another child may live on this same diet and in the same environments as the first without apparent impairment in health.

This brings us back, then, to the differences in the power of oxidation of ingested food shown by two different individuals, and here is where heredity plays its part.

The difference in the individual ability to properly carry on this process of oxidation can be probably laid to the difference in the construction of the nerve centres governing metabolism, and through them to the activity of the secretions of the ductless glands which recent investigation has shown to have much to do with the oxidizing power of the blood.

Sajous, who has been doing such excellent work in the physiology of what he is pleased to term the adrenal system—consisting of the anterior pituitary body (the governing centre of the system) the thyroid gland and the adrenals—reaches the conclusion that the adrenal secretion is the oxidizing principle of the blood plasma, and that the purin bases are converted through this prin-

ciple into uric acid. Now, if we admit that hereditary influences affect the construction of the nervous system governing metabolism then it seems only reasonable that we should speak of a uric acid diathesis.

In using the term, uricacidæmia, in this paper, I intend it to include not only uric acid but all the purin bases, xanthine, hypoxanthine, guanin, adenin, etc., the intermediate products of the oxidation of nuclein, uric acid being the most highly oxidized.

Now, what are the principal manifestations of uricacidæmia in children?

If we accept Haig's classification of diseases, depending upon an excess of uric acid in the system as collæmic or arthritic, the collæmic including those due to uric acid floating free in the blood, and the arthritic including those due to the deposit of uric acid or the acid urates in the joints and fibrous structures of the body, we would say that in children the diseases of the collæmic type greatly predominate. Principal among these latter disorders may be mentioned migraine, convulsions, chorea, epilepsy, mental sluggishness, albuminuria and asthma. Among the diseases of the arthritic type are rheumatism, gout (rarely), adenoids, naso-pharyngeal catarrh, chronic bronchitis and eczema.

The reason for the preponderance of collæmic disorders in children is easy to see. With their very active bodily metabolism and rapidity of oxidation, due to their play in the open air, and with their powers of elimination unhampered by faulty kidney action, as it often is in adults, the excess of uric acid and purin bases do not remain long in the system but produce their transient effects while passing through the blood, and are then excreted. There is, then, generally no storing up of the uric acid in the liver and spleen as is the case later in life.

If, however, the rules of dietary are violated day after day, or metabolism reduced by some intercurrent disease, then we may get a storing up of uric acid with development of diseases of the arthritic type.

The difference between a child and an adult in the power of quickly clearing the blood of uric acid is well shown in a case of migraine. In a child the headache is not as apt to be so severe as in the adult, and if a brisk mercurial purge is given at the onset the child may be well again in a few hours, while the adult, under the same active treatment, will retain his headache for at least twenty-four to forty-eight hours.

The earliest stage in infancy in which we have to deal with a condition due to uric acid is in the uric acid infarcts of the kidney of the newly-born. This condition is probably present more or less in all new-born children, but while it ordinarily gives rise to no serious symptoms, yet in children of a gouty ancestry these infarcts may give rise to pathological changes in the kidney. Lorenze, of New York, reported two such cases lately. In the first the child showed the brick-dust stains on the napkin from the first. Accompanying this was pain, fever and gastric disturbances, the urine became scantier every day, and in a week the child died. The second child in the same family began to run the same course the first week of life, but finally recovered after the use of the alkalies. Both father and mother had rheumatic histories.

During infancy uricacidæmia is not of frequent occurrence, due, of course, to the nuclein free diet, but later in childhood, when meat soups, coffee and tea, are given freely we begin to get first the disease of the collæmic type, and later those of the arthritic.

Girls suffer more than boys from these disorders, due to their comparative physical inactivity. The children of the rich develop these disorders much more than the children of the poor, being reared in luxury and allowed too much strong coffee, tea, rich soups, and an excessive amount of meat. They are housed too much. Music, French and German lessons keep them indoors when they should be playing in the open air.

As a type of such a child will be found anemic, subject to headaches—of the persistent or migrainous type—capricious in appetite, perhaps over weight for its age, but with flabby flesh, circulation poor, extremities cold, nervous in speech and manner, and sometimes showing choreiform movements. This, too, is a class of cases which, although anemic, bear iron badly.

Drummond, in the *Lancet*, 1897, describes an aggravated condition of uricacidemia in the young. "In some cases," he says, "there is a persistent headache in the frontal or vertical region, loss of appetite, constipation, anemia and loss of flesh. The temperature of the body is low, and for several weeks at a time may remain below normal. The heart action varies. It is sometimes rapid but more often slow.

It is not uncommon to have a pulse of forty or fifty, although the patient is nervous in manner. The pulse tension is raised.

The hands and feet are generally cold. The fingers are white at times, suggesting Raynaud's disease.

In some cases sudden attacks of giddiness occur which are difficult to distinguish from slight epileptiform seizures. The knee jerk, as a rule, is distinctly lessened and may be absent.

A sluggish habit of mind and body may be noted along with other character traits foreign to the patient."

This same author notes a case of a girl sixteen years of age, where the symptoms were as stated above, and the diagnosis lay between hysterical or neurotic abeyance of function and uricacidemia. The examination of the urine gave a clue to the correct diagnosis.

The sp. gr. was 1030, albumen a trace, uric acid 0.106. Total amount of uric acid excreted in twenty-four hours, twenty-five grains or upward of three times the normal amount.

Holt, in discussing cases in which uric acid is thrown down in the form of crystals in the urine, or the well-known brick dust deposit, says: "This condition is rather one in which the solvent power of the urine for uric acid is much reduced. Such urine, as a rule, is highly colored, strongly acid, and may have a high specific gravity.

This condition is also dependent upon a disturbance of nutrition, and one which is most frequently associated with the gouty diathesis.

It is not very common in children, except in those of gouty antecedents, and is usually associated with some other disturbance of nutrition—often of digestion."

The so-called "day-terrors" of children is another condition due to collemia, and may be classed with the paroxysmal neuroses, migraine and petit mal. This condition will often alternate with migraine in the same patient, and like most other diseases under discussion in this paper is found in children who are nervous and excitable and come of rheumatic parents, who have also produced weak-minded or epileptic children.

In children of susceptible nervous systems convulsions may take the place of an attack of migraine, in fact, this may be said to be the rule in very young children.

In chorea we have a disease now admittedly closely allied to rheumatism, and if we acknowledge uric acid as the sole or even a predisposing cause in the latter, we must give it the same weight as a cause in the former.

Concerning the relationship between chorea and rheumatism, Holt, from personal observation, has

noted in over 50 per cent. of his cases a rheumatic parentage, and further states: "If cases of chorea are followed for several years, it is surprising to note how the evidences of the rheumatic diathesis develop the longer the cases are followed."

Herter and Smith, who have made a study of the urine in chorea, found that in very many cases there was an excessive elimination of uric acid, but the conclusion they draw from their experiments is that this is neither the cause nor the effect, but that it shows a profound disturbance of nutrition of which the choreic movements are but another manifestation.

Haig's theory of the causation of chorea is that the innumerable small granules of colloid uric acid floating in the blood clog up the minute blood vessels of the brain.

Epilepsy is another disease in which the influence of uric acid is regarded by some observers as at least a partial factor in causation. In investigating the urine in epilepsy, Haig found that for several hours before the attack the excretion of uric acid was greatly reduced, while during the attack the amount was in excess of normal, and this amount gradually was reduced after the attack until the normal was reached.

Herter and Smith, in similar experiments, found no excessive excretion of uric acid during attacks of grand mal, but Haig ascribes the differences in findings to the fact that the investigators took too large a quantity of urine and too long after the attack, making a mixed urine of that containing a diminished secretion just before, and that of the increased secretion during the attack, thus striking a normal balance. In petit mal however, Herter and Smith found a distinct relation between the excretion of uric acid and the cause of the seizures and treatment by milk diet greatly reduced the frequency of attacks.

Albuminuria may be a symptom due to uricacidemia. With a more careful examination of the urine in children of late we find albuminuria a more common condition than was formerly thought. It is very common at puberty, and found more constantly in boys than in girls. It very often follows an attack of migraine, and is due to the increased blood pressure incident to the collæmia.

Asthma is a condition which is comparable to an attack of migraine in the suddenness of its onset. In children, asthma runs somewhat of a different course than in the adult. It never occurs as an independent condition, but may precede, accompany or follow a bronchial catarrh.

The same thing in regard to parentage, etc., may be said about asthma as in the other diseases mentioned.

Among the diseases of the arthritic type, rheumatism is the most prominent.

This is probably a disease of complex etiology, and although the tendency of the day is to class it among the germ diseases, nevertheless I think we cannot rule out uric acid as a predisposing cause. The writer ventures the theory that exposure to cold throws down the excess of uric acid in the blood into the joints and tendon sheaths, then with a lessened resistance of the tonsils or naso-pharyngeal mucous membrane a port of entry is given to a micrococcus which may be normally present and harmless in the oval cavity, but which becomes active in the blood with the production of toxins causing symptoms of chills, fever and inflammation of the joints.

On the face of the results of the present study of rheumatism we cannot ignore the theory of germ causation.

On support of this latter theory I can cite a case of my own in which a woman developed acute articular rheumatism two weeks after her confinement. She nursed her baby during its continuance with the result that the latter developed the same condition with subsequent endocarditis, from which it died six months later. No other theory than that of toxæmia due to germ infection could account for a case of this kind.

However, this does not exclude uricacidæmia as a predisposing cause, whatever may be the associated factors.

True gout is a disease almost unknown in childhood, although occasionally an isolated case is reported; nor from our knowledge of the anatomy and physiological processes in childhood would we expect this condition.

In childhood the joints are bathed in a more liberal amount of alkaline fluid than is the case in the adult, and even though the alkalinity may be so greatly reduced and the circulation of blood becomes so sluggish through a chill as to cause a temporary deposit of uric acid or the acid urates, yet with the activity of metabolism these would be quickly redissolved and pass again into the blood to be excreted.

Adenoids, naso-pharyngeal catarrh and chronic bronchitis are other diseases of childhood depending in part, if not wholly, on the uric acid diathesis. In regard to the first mentioned, Dr. Mackie, of Nottingham, England, says:

"I scarcely see a case of adenoids but where there is an arthritic or migrainous parentage."

We all have noted the frequency of pharyngitis, laryngitis and bronchitis in rheumatic adults. These same conditions occur in childhood but are not so constant an accompaniment of the uric acid diathesis as in later life. Its cause is supposed to be due to a deposit of uric acid in the fibrous structures of the naso-pharynx, larynx and bronchi—this deposit acting as a local irritant in the same manner that it does in a joint.

The most frequent manifestation of the gouty diathesis in infancy and early childhood is the tendency towards eczema.

Some writers call eczema a gout of the skin. Uric acid is only an etiological factor in some proportion of cases, the rest depending upon other diathetic conditions.

*Diagnosis.*—In almost all the diseases under discussion it will be found easy enough to make a diagnosis, but in obscure cases of stomach disorders and certain forms of nervous disorders the task is not so easy.

Family history counts for much. The diagnosis must be often made by exclusion.

If in a given case, after having eliminated all other possible causes, we find a high-tension pulse, anemia, sluggish capillary circulation accompanied by a daily excess of uric acid in the urine, we may be justified in considering it a phase of the uric acid diathesis.

To determine the daily output of uric acid in the urine, Hopkin's test may be employed, being somewhat simpler than the previously used test of Haycraft.

To prove the correctness of our diagnosis, the dietetic and therapeutic tests should be employed.

These cases should immediately improve on a diet containing a much reduced percentage of the nucleins and the purin bases, and on a course of drugs which are known to clear the blood of uric acid and increase both the alkalinity of the blood and urine.

*Treatment.*—This should be both hygienic and dietetic.

Prophylaxis is better than medical treatment. These children do much better in the country than in the city, due to their life in the open air.

In what may be called acute manifestations, such as migraine, convulsions or epilepsy, a mercurial purge is called for. Following this, I generally put them on an alkaline diuretic, such as citrate of potash, or of phosphate of soda, combined in a mixture with nitrate of potash.

In the arthritic type, or those showing inflammation of the tonsils, pharynx or bronchi, salicylate of soda is our best remedy, followed later, as in the other cases, by the alkaline treatment.

In the chronic cases, a course of the iodides may be called for. I prefer to give the iodine in the form of the syrup of the hydriodic acid, as children take this well, and we get no digestive disturbances as after giving the sodium or potassium salt. Loss of weight calls for a course of cod liver oil, and anemia for arsenic.

### VESICAL CALCULUS.

BY T. H. DEXTER, M.D.

Vesical calculus is a concretion of the solid urinary constituents of such a size, or so placed, that it does not escape but remains in the bladder.

For purposes of classification we may give them a general grouping as follows:

(1) Those formed from the normal constituents: (a) Uric acid, (b) Phosphatic (I.) Amorph. calc. phos., (II.) Am. Mag. (triple) phos., (III.) Mixed fusible phos., (c) Mixed calculi, (d) Urates, (I.) Sodium urate, (II.) Potassium urate, (III.) Ammonium urate.

(2) Calculi formed of salts found in normal urine; but never present in excess except in disease: (a) Calcium oxalate, (b) Calcium sulphate (rare), (c) Calcium carbonate (rare).

(3) Concretions formed from elements entirely foreign to normal urine: (a) Cystin (rare), (b) Indigo (rare), (c) Xanthic oxide (rare).

*Origin:* The following calculi are of renal origin: (1) Uric Ac., (2) Calc. ox., (3) Cystin.

*Frame-Work:* All of the calculi have an albuminoid or colloid frame-work. (Rainey and Ord.)

*Shape:* Crystalline-salts when in solution with colloid or albuminoid substances, tends to assume rounded or spheroidal forms in crystalization. (Rainey and Ord.)

And thus we find that vesical calculi when free are usually spheroidal. Multiplicity, erosion, and moulding may modify this tendency very much; causing many deviations from the spheroidal form.

*Nuclei:* Foreign or other bodies are frequently the nuclei of stones some of the most frequent foci being: mucus degenerated epithelial cells, bits of catheter, vaseline, hair-pins and parasites.

*Conditions Favoring Calculus Formation:* Catarrhal conditions of the bladder, with stagnation of urine and fermentative changes; and the pres-

ence of an available nucleus. Combinations of these:

*Location:* (1) Free, (2) Attached to the vesical wall or encysted in a diverticulum.

### Gross Descriptions.

(1) *Uric Acid:* Smooth, spheroidal, moderately hard and yellow to reddish brown in color. Infrequently tuberculated. Occur usually in the extremes of life.

(2) *Uratic Calculi* (Sodium, Potassium and Ammonium). Grayish yellow in color. Occur almost exclusively in children. May be the nuclei of the other calculi in adults.

(3) *Phosphatic Calculi:* (1) Amorph. Calc. Phos., dirty brown or white; crumbles easily. Rarely forms a calculus of itself. Commonly deposited in layers about calculi of other salts or intermingled with them. (2) Triple Phos. (Am. Mag. Phos.) Crystalline and of whitish color. Occurs in ammonical urine. (3) Mixed fusible calculi (combination of calcium phosphates and triple phosphates) Masses which resemble white friable mortar. Not uniform throughout; forming about various calculi, including other salts. Occurs in ammonical urine.

(4) *Calcium Oxalate:* hardest of all stones. Small or of medium size. Spheroidal in shape. Gray, dark brown or black in color. Surface usually tuberculated (mulberry calculus); rarely, smooth (hempseed calculus.)

(5) *Calc. Carbonate:* Multiple, small (weighing from 30 grains to 40 grains each), hard and lamellar in structure; similar to calcium oxalate calculi. They are rare.

(6) *Cystin:* Irregular and knotty. No attempt at crystalization; waxy and yellow-white; green after long exposure to air. Rare.

(7) *Xanthin:* Rare.

(8) *Indigo:* Does not form a calculus in itself but may give the stone its typical color. Occurs in cases of liver disease associated with cystitis.

### Microscopic Examination.

Microscopic analysis is not satisfactory as the powdered calculus both dry and suspended in water rarely shows characteristic crystals appearing, rather nondescript masses.

### Chemical Analysis.

For ultimate classification we must depend on the chemical analysis.

The three classes are as follows:

Class I.—Calculi, the powders of which *char* and burn *with a flame*. Cystin—Odor of  $S O_2$ —

brief flame. Dissolves in  $NH_4OH$ , 6-sided plates on diluting.

Xanthin. Does not give Murexid test. May give it(?) Soluble in  $HNO_3$ , without effervescing. Residue becomes orange with alkali; red on warming.

Urosteolith, Flame yellow and long. Odor of burnt shellac. Soluble in alcohol.

Fibrin. Flame yellow and prolonged. Odor of burnt feathers. Soluble in sols. of  $KOH$  Ppt. from above by acetic acid.

Class II.—Calculi, the powders of which *char but do not burn with a flame*: Urate of Ammonia. Gives Murexide test  $NH_3$  when warmed with a sol.  $KOH$ .

Uric Acid. Gives *no*  $NH_3$  with sol.  $KOH$ .

Class III.—Calculi the powders of which *do not either strongly char or burn*: Calc. Carb. with  $HCL$  dil., dissolves and effervesces.

Calc. Ox. with  $HCL$  dil., dissolves without effervescing. This solution gives a white ppt. with  $NH_4OH$ . Insoluble in acetic acid.

Phosphates. With  $HCL$  dil., dissolves without effervescing. This solution gives a white ppt. with  $NH_4OH$ . Soluble without effervescing with acetic acid. Trip. Phos. gives off  $NH_3$  when warmed with a solution of  $KOH$ .

### THE SURGICAL TREATMENT OF PURULENT SALPINGITIS.\*

BY HENRY C. KEENAN, A.M., M.D.,

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There are few subjects in the domain of therapeutics which have been productive of more discussion or of more diametrically opposed opinions than what constitutes conservative treatment of the uterine adnexa. Is it conservatism to remove or to retain? Shall we excise the adnexa entirely, in the belief that nature does not regenerate tissues thus diseased, or shall we leave parts of morbid structures, in the hope that function may be restored? Is it conservatism or radicalism to remove organs apparently not diseased at the time, but which experience has shown may become so in the future? The issue has been fought in many heated debates, not only in our local societies, but also in our national assemblies. Each side supporting its contention with an array of very conflicting statistics.

I have not attempted in this paper to take up the whole subject of conservatism, but have con-

finer myself to a consideration of the tubes, believing that a discussion of some of the present methods of dealing with these structures might be of benefit to us.

The question before us then is, how shall we deal with those tubes which are suffering from conditions classified generically under the name salpingitis, but which clinically present various degrees of pathology.

The conditions most commonly found are: First, Pyosalpinx; second, Salpingitis, in which there may or may not be a few drops of pus, with the fimbriated end of the tube open or closed; third, those cases in which there is more or less thickening of the tube or interstitial salpingitis; fourth, those cases where the tube is not diseased but is bent and bound down by adhesions.

From an etiological viewpoint we find that any one of these clinical pictures may be caused by various micro-organisms. Andrews, out of 684 cases reported by various authors, found 55% sterile, 22% due to the gonococcus, 12% due to the staphylococcus and streptococcus, Colon bacilli 2.5, saphrophytes 6%. Robb, in 21 cases, found the gonococcus 6 times and the staphylo- and streptococci 9 times. Clinically we find a puerperal or gonorrhœal history in a large proportion of the cases. Robb, in an analysis of 237 cases, got a history of labor or abortion in 95, and of gonorrhœa in 51. In Dr. MacEvitt's service at St. Mary's, out of 90 cases of purulent disease in the pelvis, 35 were puerperal, and 26 gave a more or less gonorrhœal history; 29 were negative. The infection in the puerperal cases is mostly due to the staphylo- and strepto-cocci.

Pryor, in a number of examinations, found the streptococcus frequently in pure cultures in the peritoneal fluid.

Other things being equal, we allow the etiological factor considerable weight in determining the course of treatment to be pursued, particularly in the acute cases. In the first class, following abortion or labor, we find, as a rule, intra-peritoneal pus in the cul-de-sac, with a purulent salpingitis or a pus-tube, the whole walled off by numerous adhesions from the general peritoneal cavity. On vaginal examination we find the uterus fixed with a mass on one or both sides of that organ, as the case may be, and a hardening in the posterior fornix. On such patients, at St. Mary's Hospital, we prefer to do a posterior colpotomy, making a good-sized opening into the cul-de-sac, and then going in with the finger

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and breaking up all pockets of pus, packing well with gauze, and draining. Although Price characterizes this procedure as a sign of surgical cowardice and incompetence.

Our reasons for doing so are: First, the pus is walled off from above, and the risk of infecting the peritoneum with germs whose virulence is well known is markedly less; second, these cases are frequently in bad shape, and the ease and speed with which the pus can be reached and the slighter shock are important considerations; third, the mortality is much lower—about 2% by vaginal incision and 10% to 30% by abdominal. Stone, in 17 cases by abdomen, had 5 deaths. Noble, out of 6 cases, had 4 deaths. At St. Mary's, our mortality is somewhat higher by vaginal incision than above mentioned. We lost 2 cases out of 35, but it may be said in explanation of this mortality that we refused no case. Some of the patients we operated on were almost moribund at the time; but as we have seen almost miraculous recoveries occur, we feel that all should be given a chance. There are very few operators, we believe, who would dare to laparotomize some of these cases. Fourth, the ultimate results are good. We have never had to re-operate on a puerperal case. One case which I have followed now for a year has a somewhat painful adherent scar in the vagina. Noble, out of 58 cases, never had to perform a second operation. Pryor rarely. Goldspohn, in something under 10% of his puerperal cases.

Where the gonococcus is the aggressive agent we find very similar pathological conditions to those just described. One would naturally surmise that the treatment would be the same, but here I think we are confronted by an entirely different prognosis, due to the different etiological factor. The gonococcus is not virulent, like the streptococcus, and it acts in a different manner. It is not liable to cause general peritonitis if it is spilled during the operation. On the other hand, its course in the tubes is exceedingly chronic, and it has a great tendency to light up at times and cause adhesions, and consequent distortion and pain. The question of leaving such tubes in or taking them out becomes of considerable importance, and depends for its solution on the imminent mortality and subsequent morbidity of the various procedures. In the class we are now describing, posterior colpotomy has to its credit a very low percentage of deaths due to the operation, probably less than one per cent. As to sequelæ, our fellow, Dr. Polak, out of 29

cases of gonorrhœal salpingitis whose subsequent history he learned, had good results in 27, re-operation in 2. In the first of these cases, adhesions had all disappeared. One tube was patent; the other showed a hydro-salpinx. In the second case, the operation was for appendiceal trouble. Beyond a saculation of the tight tube, nothing pathological was found.

Other operators have not been so fortunate. Hall had to re-operate on all his cases of gonorrhœal pus-tubes opened through the vagina. Hayd had a like experience. Carstens re-operated on about 25% of his cases. J. Gurney Williams says that from 25% to 50% is about the correct number who return for re-operation. Chas. Cumstom Greene says that formerly he thought the vaginal incision was the proper treatment of these cases, but lately he had to perform local hysterectomy on a number of "cures" which he had previously reported. And so the list could be continued. On the whole, it seems to me that the weight of evidence is against vaginal incision in gonorrhœal cases. Vaginal removal has its advocates. At St. Mary's Hospital, however, we prefer to attack these conditions through the abdomen. Out of 55 cases of pus in the pelvis laparotomized, we have had one death, and this a case complicated by appendicitis and general peritonitis at the time of operation. As far as we know, our morbidity is small. No case has ever returned for re-operation. That there have been some poor results I have no doubt, because the method we have heretofore used has given a certain percentage of failures at the hands of other operators. It has been our custom to ligate the tube about  $\frac{1}{8}$  of an inch from the cornu of the uterus, and cut off outside the ligature, thus leaving a part of the diseased structure in the belly. We then touch the stump with carbolic acid and suture the peritoneum over it. Reported cases show that this stump has often given rise to adhesions and subsequent pain. Schauta, out of 189 double ablations, found 34 stump exudates. It has also been shown by Bovee that the stump is liable to reopen and new infection give rise to further trouble. The present method of removing the entire tube with a wedge-shape piece of the uterus seems to be a much more rational procedure.

The percentage of cures by abdominal section varies within considerable limits. Trueb, in his argument for colpotomy, gives from the results of numerous operators from 56% to 92% complete relief, and the mortality in 1,600 cases from 5% to 6%. It must, however, in justice he said

that Trueb's statistics covers no period later than 1896, and that technic has much improved since then. Harris, removing the entire tube in 150 cases, reports complete cures in nearly all of them.

In a case of one-sided pyo-salpinx, what shall be done with the other tube. The results of different operators present such a lack of uniformity that it is exceedingly difficult to formulate any hard and fast rule. Some years ago Lawson Tait gave the dictum that where there was one pus-tube the other should be exsected. Hall says that in every case due to gonorrhœa where the other tube was bound down by adhesions, even if it contained no pus, he had to operate a second time. Shoemaker removes both tubes; believes conservatism out of place. Noble, Price, Norris, and Johnson are a few of the others who do likewise. Pozzi removes both almost always, but in view of the recent conservative results is inclined to be a little cautious about laying it down as an absolute rule. At St. Mary's Hospital, if we have removed one tube for purulent disease, we remove the other, if the patient is elderly, if the tube is much diseased, even if it contains no pus; or if it is closed and bound down by adhesions. We endeavor to save it if the patient is a young woman desirous of pregnancy. We do this if the tube is only slightly diseased, or if it is patulous, even if it is bound down by adhesions. As far as I know, pregnancy has not taken place in any of these cases.

In those cases of purulent salpingitis in which there is no sacto-salpinx, and in which the fimbriated end of the tube may be open or closed, there has been considerable discussion as to the proper treatment. Numerous methods have been devised in order that the tube may be left. Some break up adhesions, open the fimbriæ, and wash out the tube with various solutions. Others slit up the tube, or exsect portions of it, and stitch the mucus to the peritoneal tube. Polk, the earliest in this field, has reported good results, which are doubtless well known to you. Out of 40 cases of distinctly tubal work, all have done well. In pus-tube Polk does not do conservative work, and advises removal. Dudley, in the same line, has something like 185 cases to his credit in his last report, and believes his results justify him in continuing even in acute gonorrhœal cases. Goldspohn and Pryor have done similar operations through the vagina. The results vary even among the adherents of these preservative operations. Clark reports eight cases; relief com-

plete in 5, partial in 3. Burrage, out of 28 cases of tube-ovarian abscess in which he did conservative work on the other tube, had 16 good results and 12 poor. On the other hand, many operators who have conserved the tube in the past have ceased to do so. Norris, out of 28 cases in which he learned the results, gives the following figures: 35% failed to be benefited, 15% had to undergo secondary operation, 30% improved, 20% suffer no discomfort. Baldy did conservative work on tubes in 9 cases with no relief. He concludes, in all cases where tubes are closed, remove. If there are adhesions only, may leave. Bantock concludes that in either acute or chronic salpingitis it is advisable in the great majority of cases to do the double operation, and that salpingostomy has no claims to be regarded as worthy of acceptance. Coe has always exsected diseased tubes, believing that they are foci of infection which should not be allowed to remain on the slight hope of pregnancy.

It would seem as though there would have to be further researches to determine exactly when it is safe to leave the tubes.

More careful clinical diagnoses will have to be made, and a separation of the various kinds of salpingitis, with a more careful classification of the reported cases.

There is only one reason for saving the tube in any case, and that is the possibility of future pregnancy. Women have borne children under the most untoward conditions, and here we have no exception. Pregnancy has followed double pus-tubes, as shown by Isaac. Bovee has the literature of cases which occurred after the removal of both tubes, but these are so rare as to be remarkable phenomena.

As a practical question. Do the results known thus far justify us in preserving the tube in any purulent case? If so, what kind of tubes may we save with a reasonable hope of health and function being restored? An examination of over 200 cases of conservative tubal operations, which I made, show that there is a certain class in which a reasonable number of complete recoveries, together with a fair percentage of pregnancies, may be expected. In practically all of the reported cases where the woman became pregnant, it will be found that, without regard to the character of the disease on the other side, one tube was patent at the time of the operation, and had few adhesions. In almost no case where the fimbriæ were closed did conception occur. In purulent gonorrhœal cases, even if the tube is

patent, pregnancy is hardly to be expected, and the liability of future infection of the tube is very great.

My conclusions are: that gonorrhœal patients are the poorest subjects for conservative work; that opening the fimbriæ and slitting up the tube cannot be expected to result in pregnancy; that freeing patent tubes from adhesions and raising them in the pelvis are the only conservative procedures which give results at all satisfactory.

#### NASAL OCCLUSION IN ITS ETIOLOGICAL RELATION TO GENERAL DISEASES.\*

BY ALEX C. HOWE, M.D.

Nasal occlusion that interferes with free respiration through the nose, all or part of the time, is a factor in many systemic diseases that is frequently overlooked. Air starvation due to poor ventilation is recognized at once as a factor in many cases. But air starvation of an even greater degree, due to nasal occlusion, is frequently overlooked. The child or adult that sleeps all night with open mouth or goes about all day in same condition, shows varying evidences of air starvation, such as anemia, relaxed muscles and flabby tissue. Their faces and actions indicate mental and physical inertia. The distressed and labored sleep of a mouth-breather causes him to rise unrefreshed and heavy in the morning. This lack of complete rest affects the sufferer's general condition. He loses nerve tone and muscular tone. Circulation is depressed. The muscular activity of the digestive tract is lessened and possibly the glandular activity is diminished. The relaxed muscles may aggravate any tendency to enteroptosis. These conditions give rise to gastric catarrh and dilatation, due to prolonged retention of food in the stomach. The sluggish intestinal peristalsis causes varying degrees of constipation and intestinal fermentation.

I have had occasion during the past five years to remove a large number of polyps from the nose of a man about forty years of age. During the time the polyps cause complete nasal occlusion he becomes progressively anemic, dyspeptic and lethargic. When full nasal respiration is restored his general improvement begins at once. The same condition is seen in children who are mouth-breathers. They are anemic, irritable, indisposed to activity, finicky about their eating, with recurrent attacks of indigestion and constipation—the so-called bilious attacks of children. As soon as 4 to 8 hours after operation

they will frequently beg for food and their irritability disappears.

Coupled with this lack of nervous and muscular tone, is a condition of sub-oxidation that could easily of itself account for those conditions. The anemia in mouth-breathers or those with diminished nasal respiration is probably the result of intestinal fermentation and the presence of sub-oxidized materials in the circulation. Sub-oxidation makes its presence known in various ways; such as rheumatism, gout, lithemia, etc. I would not be understood as claiming that an occluded nares is always the cause or even is always associated with these conditions. I would, however, urge that when these conditions present themselves, the freedom of the nasal respiration be determined. Nasal occlusion to the extent that causes mouth-breathing is not necessary to cause air starvation. For many suffer from diminished nasal respiration that are totally unconscious that they rarely have more than one side of their nose in use at any time. It is the slight but prolonged interference with free nasal respiration that causes many of these conditions of sub-oxidation, or is the one obstacle in their improvement under treatment. I do not consider gout and rheumatism and their allied conditions as diseases, but as symptoms or expressions of the great fundamental cause of almost all chronic nutritive or glandular diseases—sub-oxidation. Chronic nephritis, when not due to alcohol, is generally a result of chronic sub-oxidation. The same with chronic diseases of the other glands. Why is it not also the primary cause of most of the cases of neurasthenia, melancholia and the numerous nervous symptoms that the so-called society women burden us with.

The following case indicates the increased oxidation due to increasing nasal respiration. I removed a large pedunculated post-nasal lymphoid from a woman of 28. She had been a mouth-breather when a child, but had not been, during the day, since she was about 17. At the time of operation she weighed about 178. Without the loss of much blood at the time of the operation, without change in diet or manner of living, she lost 19 pounds within the following two months. Her weight remained about 158 to 160 for three years and did not increase till after she began to use beer rather regularly with her meals. When that was stopped, her weight returned to what was apparently her normal weight, 158 pounds. This rapid loss of weight, following the operation, can only be explained by greater oxidation, due to better nasal respiration.

\*Read at a meeting of the Long Island Medical Society, March 7, 1905.

## TRANSACTIONS OF SOCIETIES.

### THE MEDICAL SOCIETY OF THE COUNTY OF KINGS.

STATED MEETING, MAY 16, 1905.

The President, J. W. FLEMING, M.D., in the Chair.

There were about 150 present.

The meeting was called to order and the minutes of the previous meeting read and approved.

#### REPORT OF COUNCIL.

The following resolutions adopted by the Council were presented and read by the Secretary:

At the last meeting of the Council of the Medical Society of the County of Kings, held May 10, 1905, Dr. French moved that, inasmuch as the District Attorney had displayed a willingness to prosecute illegal practitioners, provided sufficient evidence was obtained; therefore be it

*Resolved*, That the Council decide to employ two detectives to be paid by a fund raised by subscriptions from members of the Society, to prosecute illegal practitioners; and, further be it

*Resolved*, That a committee of three be appointed to take this matter in charge. This motion was duly made and carried, and the President appointed Drs. French, Webster and Warbasse.

The Secretary was ordered to present these resolutions to the Society.

On motion, duly made and seconded, the resolutions were adopted by the Society.

The following candidates for membership have been accepted by the Council:

W. W. Colby, 717 Halsey St.

P. G. Taddiken, Long Island State Hospital.

#### APPLICATIONS FOR MEMBERSHIP.

Application for membership has been received from

Paul Kavenagh, 136 South Ninth St., Bellevue, 1904. Proposed by Membership Committee.

#### ELECTION OF MEMBERS.

The following having been duly proposed and accepted by the Council were declared, by the President, elected to active membership:

Stanislaw J. Altier, 6 Sumner Ave.

John L. Crofts, 295 Jefferson Ave.

John J. Dooling, 256 Tompkins Ave.

William J. Flannery, 238 Arlington Ave.

David Gingold, 53 Sumner Ave.

Albert J. Keenan, 1146 Park Place.

Thomas J. Patterson, 87 Williams St.  
Victor H. Pentlarge, 198 Eighth Ave.  
William Pfeiffer, 377 McDonough St.  
Owen M. Waller, 762 Herkimer St.  
William H. Wogdom, 241 McDonough St.

#### DECEASED MEMBERS.

The Historical Committee reported the death of

Heber Nelson Hoople, A.B., M.D., University Toronto, 1885, also Bellevue, 1885; member 1888 to 1905; died May 8, 1905.

Dr. John E. Sheppard, on behalf of Mrs. Bartlett, presented to the Society a magnificent portrait painting in oil of the late Dr. Homer L. Bartlett, Chairman Historical Committee, 1898-1899, Vice-President of the Society in 1865, and member from 1859 to date of death.

The portrait was hung upon the wall in the meeting room, and was then unveiled.

The President accepted the portrait on behalf of the Medical Society of the County of Kings.

#### SCIENTIFIC PROGRAM.

Paper: "The History of the House and Its Relation to Health," by George M. Gould, A.M., M.D., Philadelphia, Pa.

A motion was made and seconded that a vote of thanks be tendered to Dr. Gould for his courtesy and for the entertaining lecture delivered. The motion was carried by a rising vote.

The meeting then adjourned.

JOHN A. LEE,  
*Secretary.*

### THE BROOKLYN PATHOLOGICAL SOCIETY.

HENRY G. WEBSTER, M.D., Editor.

455TH REGULAR MEETING, JANUARY 12, 1905.

The President, J. C. MACEVITT, M.D., in the Chair.

REPORT OF CASE: ABDOMINAL HEMORRHAGE OF UNRECOGNIZED ORIGIN.

DR. C. H. TERRY.

Notes read by DR. LEE.

REPORT OF CASE: HEMATOSALPINX.

DR. F. J. SHOOP reported the case of a woman aged 36, married, no specific or gonorrheal history, previous history of premenstrual pain, very severe ever since beginning menstrual life; always constipated.

She first came under his observation January 10, 1904, complaining of post-menstrual and inter-menstrual pain, menorrhagia and occasional metrorrhagia. Examination showed a tumor of the left ovary and tube, blocking up around the broad ligament on the right side, and retroversion. Operation was advised but deferred by the patient.

September 7, 1904, she had a very severe attack of ovarian neuralgia, pain principally on the right side, but extending over the lower part of the abdomen.

December 21, 1904, she suffered from an attack of gripe and return of all former pain symptoms much aggravated, bowels obstructed and much difficulty in relieving them. She finished her last menstruation January 9, 1905, and entered the hospital January 10 for operation. To her knowledge she was never pregnant nor missed any menstruations.

Operation revealed a mass of adhesions on the right side involving the head of the colon, appendix, two or three coils of intestine, ovary and tube and upper part of bladder; on the left side a hematosalpinx, and an enlarged ovary and adhesions to sigmoid. After careful dissection and ligating dense adhesions, both ovaries and tubes and appendix were removed, the latter having a club-shaped end. The uterus was apparently normal, so he did a ventro fixation.

Cutting open the left tube reveals it filled with a fluid consisting of dark, brownish blood.

PATHOLOGY OF VESICAL CALCULUS. BY DR. T. H. DEXTER.

See page 238 of this Journal.

REMARKS ON STONE IN THE BLADDER: REPORT OF AN ANOMALOUS CASE: SKIAGRAPH.

BY DR. A. T. BRISTOW.

#### *Discussion.*

DR. G. R. FOWLER said that Dr. Bristow's paper and the case which he related was one calculated to turn our thoughts in the direction of the difficulties, upon occasion, of diagnosing stone in the bladder. As Dr. Bristow had remarked, in children, either from the anatomical location of the bladder, or from some other reason, the suspicion of stone is quickly aroused by the fact that the pain traveling along the urethra and in the direction of the glans penis leads to pulling at the prepuce following, and, in fact, during, urination, and the child gives very decided evidence of the presence of pain.

There is another symptom which he had observed rather frequently, and that is the exist-

ence of a prolapsed rectum, or prolapse more properly speaking, with more or less eversion of the mucous membrane of the rectum occurring in connection with a vesical tenesmus and coincident rectal tenesmus. That is sometimes quite pronounced, and in fact in the case of adults also it is a symptom which is not infrequently present. This irritability or greater sensitiveness of the bladder in children is illustrated also in connection with this viscus, when it becomes necessary to do a perineal section for conditions other than stone in the bladder. In fact we do perineal sections seldom now for stone in the bladder in children. He was reminded of this by a case which came recently in his hospital service, of a boy of twelve, who in playing football came in violent collision with the head of a comrade, with the result of suffering a so-called fracture of the penis, really a fracture of the corpus cavernosum of one side, this being forced strongly against the pubic bone and resulting in a rupture. He complained at first of pain, but after urinating some time extravasation took place, showing the corpus cavernosum had ruptured. Finally a communication resulted between the corpus spongiosum and the urethra and then into the tissues on the side—rather a rare condition of affairs occurring in this way and in so young a child. This necessitated the performance of perineal section, and it was surprising how extremely irritable the base of the bladder was to the presence of the perineal drainage tube. It was with great difficulty and only with the use of opium that they were enabled to keep the tube in the bladder long enough to permit the infection, which had taken place in the corpus cavernosum, to be relieved. This was not due to the fact that the anatomical conditions favored it particularly, because the child was lying in bed, but it does occur from the increased sensitiveness of the vesical neck and the presence of annoying calculus, drainage tube, or what not.

The difficulties of diagnosis are always increased where the patient refuses to take an anesthetic. He remembered a case coming under his care some years ago, in which Dr. Rockwell had attempted to make a diagnosis, but which failed because of the irritable condition of the patient's bladder. He had repeatedly passed the ordinary searcher and had failed to find the stone, and yet was convinced the stone was present. The man refused an anesthetic and went to Dr. Gouley, who had the same experience. He then went

to Dr. Hutchinson, and he had the same experience with him.

When he came under Dr. Fowler's care, with these three experiences, he was rather more willing to listen to the suggestion of taking an anesthetic. He was taken to the hospital, an anesthetic administered and the evidence of stone found. This was many years ago before the choice of operations had narrowed itself down, as at the present day, between suprapubic cystotomy and lithotripsy, and the lateral and the median perineal section were then in vogue, so he proceeded to do a median perineal section and removed five large stones from the bladder. The patient made a good recovery and left the hospital, but returned in three months complaining of the same symptoms, and again on making perineal section and investigating the bladder, the Doctor found he had overlooked a stone, so that even with an anesthetic, the perineum open and his finger in the bladder and removing five stones with all the care that could be exercised in the premises a stone got away from the operator.

That cases may go on a long time with a stone and the presence of the stone be not suspected was illustrated very forcibly in a case that came under his care a number of years ago. He was called to see a man 18 years of age, who was said to be suffering from kidney disease all his life. The symptom which presented most forcibly was a constant dribbling of urine from the perineum. The doctor, upon passing his finger across the point where the trouble was coming from, felt a roughened surface, and upon further investigation he found there was a large calculus in the perineum that was actually ulcerating through; and the story that he had this since he was two years old, and that this had existed for 15 years, seems almost incredible; but what seems more incredible still was the fact (the people belonged to the Christian Science sect) that operation was refused, and the boy actually died with this large calculus embedded in his perineum, which was trying to deliver itself through a fistulus opening.

That the diagnosis may sometimes be confused by the history of stones having recently been removed from the bladder is exemplified by a case now in his service at the Methodist Episcopal Hospital. A man was brought in who had a history of having had a stone removed by the suprapubic route in the past six months, and that the opening had healed and broken down repeatedly. Finally he came into the hospital to have the opening closed. An investigation at that time showed simply this fistulous opening, and nothing

more was suspected until just previous to operation. After being prepared for operation, it was deemed expedient to investigate further, and this revealed the presence of two large stones, which had apparently formed in six months, or since a suprapubic lithotomy had been performed.

It sometimes occurs in confusion of the diagnosis that there is a combination of neoplasm and calculus material, indeed, if not actually a stone in the bladder. This, perhaps, most of us have seen where patients have been the subjects of the ordinary papilloma of the bladder and calculous material from the urine has become entangled in the papillomatous masses, and then in time occur symptoms of vesical calculus with more or less hemorrhage, the hemorrhage being due to the presence of the neoplasm, while the symptoms, the vesical irritability, vesical tenesmus, etc., are due to the presence of the calculus material itself, the latter coming on late in the case.

As to the choices of operation, Dr. Bristow's case fully illustrated the importance of choosing the route by which the most rapid healing can take place. Usually, in a bladder known to be healthy and a stone known to be small, it is said that lithotripsy is the operation of choice. It is very certain that a large stone and a hard stone requiring the use of exceptionally heavy lithotrites, and above all those occurring in a diseased condition of the bladder, will contraindicate lithotripsy and demand lithotomy. Dr. Fowler thought the so-called high operation of suprapubic lithotomy is the best operation. Unless one is cracking stones in the bladder constantly, it is not easy to grasp the stone and break it in the proper manner at the first time, and the greater number of attempts are made, the more easily failure follows, until finally one or more fragments may be left behind in spite of the most careful and frequently repeated washings. On the other hand, with suprapubic cystotomy, without the use of dissection of the bladder, without the use of the colpeurynter, but simply making the incision sufficiently low—he usually commences a little below the level of the symphysis, and in fact encroaches somewhat upon the pubic bone in the primary incision, so as to be sure to get all the available space possible to open the bladder below the reflection of the peritoneum, and he has never even seen the peritoneum, much less wounded it, since he has adopted this method of operation. Retzius' space is usually easily opened, the hemorrhage is almost nil, particularly if blunt dissection be employed at this point instead of incision with a large scalpel; the bladder is easily reached and

can be steadied by a couple of tractor sutures passed through its walls, incised with a quick thrust of the pointed bistoury, so as to be sure the mucous membrane is divided at once, the incision enlarged sufficiently to permit the stone to be grasped. It gives inspection of the bladder-wall, we can judge as to the condition of the mucous membrane, as possible ulcerations; it will serve to exclude everything but the stone, and when the stones have been removed, it, of course, excludes that.

The suture of the bladder-wall itself is of some moment. It should not be sutured including the mucous membrane lest calculous deposits occur on these as a foreign body in the cavity of the bladder. It should be sutured with interrupted and not continuous sutures. It should be sutured with chromicized cat gut; the sutures should be placed sufficiently near together to insure against leakage, and where the extra vesical connective tissue is plentiful a second layer of sutures may be placed over the first. Dr. Fowler's reasons for preferring an interrupted to a continuous suture is the fact, in the case of continuous sutures, that the same amount of tension can never be brought to bear in the case of each suture first, and second, that the giving away of one portion of the continuous suture means the giving away of the entire suture; and next, the diagonal method, or the diagonal method in which the uninterrupted suture crosses the line of incision, shuts out more or less blood supply needed for the purposes of immediate repair, and it is desirable that rapid repair take place.

The exterior of the wound, or the wound including the muscular structures and the skin, should never be closed as a primary measure. The doctor lost one such case in a private house where he supposed he had a competent nurse in charge. He had closed the abdomen almost completely, but not quite, as he left a little opening for drainage, but it was not sufficient, and leakage took place; extravasation into the abdominal walls occurred, and the patient perished from general sepsis. This cannot take place if the bladder itself only is sutured and the external wound is left open.

In cases of communication between the bladder and intestines: One of the few cases of this kind reported was one which he himself had placed on record of a man who came under his care with a stone in his bladder and with a history of an appendicitis of two or two-and-a-half years previously, and since that time he had been suffering with symptoms referable to the bladder, but no

diagnosis had been made. When he came to Dr. Fowler he had a stone in his bladder, and he had fecal matter passing from his bladder with his urine. The doctor did a suprapubic cystotomy and removed a calculus, and found a communication between the intestine and the bladder. The man's condition at that time did not warrant further interference in the case, and he was satisfied to be relieved from the dreadful symptoms which he had had. The bladder was not closed; drainage was employed. The man finally died in two or three years from some intercurrent affection, but in the meantime was comfortable, wearing a suprapubic drainage tube. This illustrates what may happen; such cases are not frequently observed.

DR. H. B. DELATOUR, referring to Dr. Bristow's case and the use of the sound where the diagnosis is not apparent, said he understood the Doctor delayed some twelve weeks after his guinea pigs were inoculated waiting for the development of positive signs of tuberculosis. It hardly seemed to Dr. Delatour, that with care in the sterilization of our instruments and washing of the urethra that there is enough danger of outside infection being carried in to warrant any such great delay as that. Personally, he should not hesitate to introduce the sound under proper precautions, if he suspected a stone, unless the evidences of tuberculosis were very decided. He thought the outcome of the case particularly if the condition is as suspected, and we have every reason to believe that it is, as regards the smaller calculus in the ureter, is one to congratulate both Dr. Bristow and the patient upon. If one has seen a case of communication between the rectum and the bladder, he has seen probably the most miserable condition that one can imagine. Dr. Delatour recalled the case Dr. Fowler detailed. That man, before his bladder was opened, suffered with all the tortures that it is possible to crowd into one existence.

A second case which came under his observation apparently followed an ischio-rectal abscess, which evidently ruptured into the bladder and rectum and established a communication, and fluid feces were passed continuously through the urethra. He never saw greater suffering in any one than that man, and if the patient presented to-night escaped these tortures, he is entitled to congratulations most sincere.

DR. F. C. VALENTINE prefaced his remarks by saying that it seemed to him an absurdity to endeavor to discuss a paper which was so replete with instruction. However, he might be permit-



ted, just for the sake of emphasis, to pick out some points which struck him most forcibly, as they brought him back to days when he was more industriously studying than now.

It was but recently that one of the matters Dr. Bristow emphasized came forward, where the only symptom of stone was a pain after urinating, yielding after the bladder filled. The patient was an intelligent boy of 17, who graphically described his symptoms, which led the Doctor to diagnose the condition without a stone searcher. The boy, as in a number of these cases, had been treated for cystitis and all manner of diseases. The urine in his case was purulent as usual. Under the indications, with proper tonic treatment, the Doctor expects to operate on him some time next week.

Dr. Valentine thought he must have misunderstood Dr. Bristow when he noted from his paper the words, "One can never be sure that the urethra is free from organisms." His reason for doubting the correctness of the quotation was this: We are always sure that the anterior urethra has micro-organisms; it is the posterior urethra which is free in the normal state. How these micro-organisms of the anterior urethra may become pathological we all know; traumatism alone suffices without direct infection. This emphasized to him and encouraged him in the belief that he had always cherished, that we cannot be too careful not to inflict a traumatism upon the urethra. It was that that caused him to so warmly endorse the methods pursued by Dr. Bristow, in order to determine that he did not have a tubercular case in this instance, for fear he might add traumatism, making a plus of it to the tubercular condition.

As to the question of acid urine in cases of stone in the bladder, he did not have opportunity to go through much of the literature on the subject, but he had not found it in his own cases. Guyon mentions it in the fourth edition of his work, published lately. In the third edition Guyon did not speak of it.

What seemed to Dr. Valentine singular and very remarkable in this case was that the patient could travel twenty-five miles with a stone in the bladder without producing pain, that is, it did not go beyond discomfort. Of course, encapsulated stones do not inflict traumatism upon the bladder.

When Dr. Bristow mentioned pneumaturia, Dr. Valentine was sincerely in hope that we would get a contribution to that subject, which would throw more light on that condition. It

seems the cause is a communication with the intestine.

Dr. Bristow again emphasized what he thought cannot be brought too often before the profession, and that is the need of the greatest possible precaution in urethral catheterization. Dr. Valentine confessed he was as guilty of catheterizing the ureters as often as any one else in America, and added that Americans were among the earliest to demonstrate it. His conscience has reproached him, although he has never had any misfortune from it. This question of catheterizing the ureters has taken precedence over the prime object of the cystoscope. Catheterization of the ureters is an exceedingly simple matter, and he would have undertaken during the evening, if he had known of it, to ask any of the gentlemen who have never catheterized the ureters to do it on a phantom, in which he could teach them to catheterize the ureters in three minutes instead of the usual three weeks. We have reached this point, he said, that we know that catheterization of the ureters is not a matter of wonderful skill. It is only ten years ago, however, since, he would admit, he did not succeed oftener than five or six times out of ten, while others succeeded invariably. It was due to lack of experience and correct technique.

The point the Doctor desired to emphasize is this: The wisdom of abstaining from urethral catheterization, and going back to the original use of the cystoscope.

The Doctor said he was glad to be here to discuss Dr. Bristow's paper, and, therefore, it was somewhat out of place, he believed, to make any comment on Dr. Fowler's remarks regarding the paper, except to supplement them. He recognized, of course, it was impossible in a brief discussion to treat so extensive a paper at all exhaustively, yet he would like to ask Dr. Fowler if he thinks the stone he mentioned as being found on a second operation, would have escaped him in the first instance, if he used the Guyon method, which consists of nothing more than when the finger is in the open bladder to have the bladder struck on one side and then the other with the searcher. That striking, he believed, had been the cause for ever so many years that Guyon has not had a stone escape him.

It was only yesterday that he read that Dr. Donald Kennedy, a former pupil of his, now practising in Denver, presented to the profession a suprapubic cystoscope. It is a trocar with the Valentine retroscope inserted. He thrusts it through Retzius's space and the bladder is in-

spected. He has not suggested it in stone cases, but it seemed to Dr. Valentine that there are possibilities in this regard.

In America we are still on the fence and can return to the side of cystotomy for stone, although the most brilliant work in litholopaxy was instituted in America. Dr. Valentine referred to the immense amount of litholopaxy by Mark of Wildungen and by Guyon of Paris, so that the question often arises whether there may not be more reason for pursuing litholopaxy than perineal or suprapubic cystotomies. He asked, is it not extremely satisfactory to crush a stone in the bladder and be assured that there is nothing of it left, and have your patient out in 48 hours, as is so often done?

DR. J. P. MCGOWAN, continuing the discussion, said he was glad to know there was some uncertainty here in the diagnosis of stone in the bladder, as it also applied to New York. The case which he would relate illustrated what Dr. Fowler dwelt upon, the refusal of patients to submit to instrumentation. The diagnosis was made by following an old suggestion of Otis—bi-manual palpation of the bladder, the patient in the knee-chest position. By this means he was able to map out the stones very distinctly. The history was an old one and offered a few instructive points:

The patient from whom these stones were removed (presenting them) in 1899 was a tailor, 51 years old, of good habits and history. Until two years prior to his operation his chief complaint was a constant pain in the fossa navicularis, with more or less frequent micturation at first, which became painful some six months after the onset, and after instrumentation and six months' treatment at the hands of one of our surgeons in New York. The treatment consisted of washing out the bladder first at intervals of three days, later twice a day. Meanwhile micturation became more painful, urgent and precipitate, followed by tenesmus; the urine became cloudy, offensive and bloody. He became very much discouraged, discontinued treatment and returned to his family doctor, who ordered him to bed and prescribed a mixture, which relieved the urgent symptoms, and after a week or ten days in bed the patient resumed his work, only to suffer a recurrence. The condition grew steadily worse, and after ailing about three months he entered one of the hospitals, where he was searched and cystoscoped and treated six weeks more with considerable relief. His urine cleared up, the tenderness subsided, but the pain in the penis persisted through-

out and was supplemented with a similar pain in the ball of the foot.

After leaving the hospital he was fairly comfortable as to his urinary functions for about four months, when he was stricken with a cold which settled in his bladder, producing the same set of symptoms for which he first entered the hospital. The recurrence lasted about three months, when he decided to enter the hospital and selected one of the larger ones, where the searching and cystoscopy were conducted by several men, and the diagnosis of prostatic enlargement and secondary changes in the bladder made. Washing out the bladder twice daily was ordered and instituted. He remained under this treatment about two weeks with little benefit, and at the end of his second month returned home and attempted to carry on the treatment himself.

He came under Dr. McGowan's observation in March, 1899. The result of the physical examination is recorded as follows: Patient fairly well nourished, shows marked evidence of suffering; meatus normal; urine cloudy and ammoniacal; prostate normal; bi-manual palpation reveals hard masses in bladder. Diagnosis of stone made, but patient rejects instrumentation on the ground that, first, he believes instrumentation intensifies the trouble; second, he has been examined so often by experts, who have suspected stone and failed to demonstrate its presence that he does not believe the trouble is dependent upon its presence.

After trying to persuade him to submit to instrumentation and suggesting a suprapubic exploration of the bladder, the doctor refused to prescribe unless an examination could be had, and the patient left his office. The following day the doctor was summoned to his house, when he found him pretty well used up. As the result of a hard night, he was passing bloody urine every fifteen minutes; each act was attended by great pain and followed by tenesmus. The patient was hopeless and decided that he would submit to the operation, but could not tolerate instrumentation.

The patient was immediately put in shape preparatory to operation, and the following day Dr. McGowan incised the bladder by the suprapubic route, and discovered two stones adherent to the left wall separated by an interval of about two inches. These were easily detached, and if this process was attended by any hemorrhage it was impossible to determine it owing to the engorged condition of the bladder-walls and the amount of blood in the urine. After sweeping the bladder-wall with the fingers the doctor in-

introduced a glass tube to irrigate the bladder, and was amazed to hear a click. He made a digital examination which revealed an impacted stone in the posterior segment and to the right side, which could not be dislodged by the finger. After some manipulation with forceps the stone was removed and the bladder explored again with the finger with negative results. Finally, after washing the bladder, a small electric light was introduced, which revealed two more stones in a diverticulum, in exactly the same location from which the third stone had been dislodged. The mucous membrane of the bladder was torn by the forceps, and the bleeding, while not alarming, was pronounced. After removal of the last two stones the bladder was washed out with a hot solution of silver nitrate, a syphon drain introduced, and the patient made an uneventful recovery. He was discharged cured in one month.

Six months later he reported that he had no recurrence of his symptoms, no pain in the foot, and the pains disappeared within a few weeks after the operation and had not recurred; his urinary functions were intact, and he had not been so well since the onset of the trouble.

In this connection the doctor said it is interesting to note that Young, of Baltimore, reports four cases of vesical diverticula, three of which developed in early life, and the fourth was complicated by prostatic enlargement. The following he quoted from an abstract:

"Careful study of the literature showed that only three cases had been operated on radically, namely, one by Czerny, excising by transverse abdominal incision, transplantation of the ureter, development of pyonephrosis, nephrectomy and final cure; one by Riedel, suprapubic incision, death from collapse; one by Pagenstecher, parasacral extirpation, resection of ureter, kidney involvement, improvement, with fistula. The writer's four patients were all living and in good condition. In three cases the diverticula were completely excised, but ureteral transplantation was avoided by a plastic method. Renal infection was avoided, and no fistulae resulted."

The cystoscope was used in this case of Dr. McGowan's on two different occasions by competent observers, and they overlooked the stone. When the patient was anesthetized, the searcher was introduced, and the click was distinctly heard. This case, he said, reiterates the advantages of the suprapubic route, as Dr. Fowler pointed out and as Dr. Bristow demonstrated in his case. As

much could not have been accomplished by the perineal route or by means of the lithotrite, and there was avoided the complications and destructive results which happen from an operation done deep down or with the lithotrite.

DR. A. T. BRISTOW, in closing the discussion, said that several gentlemen have told us of leaving stones in the bladder, but he had not heard any of them say anything of opening the bladder and not finding stones. He told of a case of that sort.

A young girl, six years of age, came into his service at the Long Island College Hospital, with the classical symptoms of stone and pain. He passed a searcher and felt the click of the stone and half a dozen other people also heard it. He opened the bladder by the suprapubic route on account of the youth of the child, not wishing to distend the vagina in one of such tender years. The first time he put the catheter in the bladder it was not held firmly and the pressure soon drove the whole thing out. After opening the bladder he found no stone. The bladder was then closed and the child got perfectly well. All her symptoms disappeared. The operation cured her. The only conclusion he came to was that the stone must have been there and got away when the catheter, etc., were forced out.

With regard to Dr. Delatour's remark, he wanted to ask the Doctor whether, if a patient came to him with a tubercular history and the history of a maternal uncle dying of tuberculosis, whether also provided that patient had uniformly acid urine and was passing pus and blood right along, and in addition to that had an enlarged and tender prostate, looking toward a tubercular process at the base of the bladder, whether he would so rely upon his ability to sterilize the anterior urethra, that he would be willing to put a sound in the urethra. Dr. Bristow did not believe it. He was in the presence here of two anomalous symptoms, the pneumaturia and symptoms pointing to appendicitis. He would not depend upon the cystoscope to find a small fistulous tract, which might exist anywhere in the folds of the bladder; moreover there was a suspicion there might be a small calculus at the mouth of the bladder. These two factors, apart from any other consideration, rendered the operation of choice here the suprapubic cystotomy, which he did. In addition, he agreed with Dr. Fowler, that the question of litholopaxy is a question of experience.

In India they cure their cases by hundreds, and it is curious with regard to the pathology of

stone. The Hindoos live on rice and "butter" (?) and in no country is stone more frequent than in India. It is for this reason that the surgeons of India acquire extraordinary dexterity with the use of the lithotrite. Dr. Bristow believed such experience is only acquired by constant practice, and he should always prefer to do the high operation and be sure he had gotten everything out of the bladder. If he had Dr. Valentine's skill with the cystoscope, he should feel then he had everything out of the bladder after employing that instrument.

### THE BROOKLYN GYNECOLOGICAL SOCIETY.

HENRY C. KEENAN, M.D., Editor.

STATED MEETING, APRIL 7, 1905.

The Vice-President, J. O. POLAK, M.D., in the Chair.

#### VASO-MOTOR DISTURBANCES OF THE MENOPAUSE.

DR. W. B. CHASE spoke of a case under his care recently presenting to an unusual degree the discomforts which arise in the vaso-motor disturbances so common at the menopause. The patient reached the climacteric fifteen years ago and has been more or less of an invalid ever since. She has such a marked susceptibility to these vaso-motor disturbances, that when the flashes of heat came over her, no matter if it is in the summer, and she is on the piazza of her house on the warmest day, it is impossible for her to get up and inside the house, where it is warm or where there is no possible draft of air, without being bathed in perspiration. She says as soon as she feels these sensations of heat, they are immediately followed by a chill, and that is followed by profuse perspiration. Unless she has a blanket at her side to throw over her shoulder she takes cold.

Dr. Chase has never seen a case in which the symptoms were so pronounced. Under tonic treatment she has these attacks with very much less frequency, and the discomfort and perspiration have almost ceased.

DR. L. G. BALDWIN remarked that this was certainly an interesting subject. It reminded him of a case he had had under his care ever since both ovaries were removed eight years ago, and it was very much like the one Dr. Chase recounted, except she does not take cold so easily. He has seen her in his office in the summer time have one of these flashes come on and break out in a perspiration that would wet the ordinary shirt waist

in two minutes. That still continues. They are not as frequent as they were formerly. Different drugs have relieved her for the time being—atropine and ovarian extract has helped her, but they all lose their effect. The only thing that does good, that she can rely upon, are the bromides—bromide of soda with hydrastis does give her a great deal of relief, but it is by no means a cure.

#### ABDOMINAL TUMOR OF OBSCURE ORIGIN.

DR. J. C. MACÉVITT related the case of a woman confined in December last, who was up and about on the twelfth day and has been apparently well since with the exception of a localized pain on the left side. He could easily palpate a mass extending from the *cul-de-sac*, in form, an oblong mass, up to and behind the false pelvis. The third day after accouchement she complained of pain on this left side, and the attending physician made out this mass. It had evidently existed previous to her accouchement. She had complained of pain in this region, but not of a severe character, for a number of months before confinement.

She was sent to the hospital, and on opening the abdominal cavity there was present a small amount of peritoneal fluid, not over an ounce. The omentum was thickened and firmly attached about the uterus and to the broad ligament on the left side. The uterus was about five times its natural size. The broad ligament on the left side was very much thickened, but he could get his fingers on each side of the upper and lower surfaces. He attempted to pull away this omentum, which was attached to the walls of the true pelvis, involving the broad ligament on that side, and firmly adherent to the intestines as well. It was impossible to separate them without tearing this attachment to the intestines. This growth extended up almost to the diaphragm. He enlarged the incision so as to expose it thoroughly, and by separating the intestines and breaking away the adhesions, the surface of the tumor was exposed, which proved to be sub-peritoneal.

In the faint hope that it was possibly due to some septic infection at the time of parturition, he thought it advisable to introduce a trocar, although the mass was very dense, but he failed to find pus, and looked upon the growth as absolutely irremovable without death to the patient, so he closed up the abdomen. As to whether it was commencing carcinoma of the mesentery or an enlarged sub-peritoneal gland, he did not venture an opinion. The woman is apparently

healthy and gives no evidences of cachexia, and if cancer, it is far enough advanced to show cachexia. There was enough inflammatory mass surrounding this growth to account for her temperature without there being pus.

DR. O. A. GORDON was of the opinion the case, although a little late, was possibly puerperal psoitis, and that the mass being retro-peritoneal, might be inflammatory. He thought that the attempt to find pus was justifiable. He had seen several of these cases, where, in opening the loin, pus was found. A case he had this winter, in which there was a mass behind the peritoneum, (which was not as extensive as Dr. MacEvitt's) following a confinement, and he expected to open the loin. He put the woman to bed and watched her from week to week and the mass grew smaller and finally entirely cleared up, showing that it was inflammatory.

He has had two or three others where he evacuated through the loin, getting anywhere from one-half to a pint of pus.

While this mass might be malignant, he was disposed to think that it arose from an infection at the time of confinement, and if it does not clear up by keeping the woman in bed, one would be justified in exploring the loin.

DR. L. G. BALDWIN said it seemed to him it could be a septic case. If it was psoasitis with the extensive swelling the doctor describes, that woman, he thought, would be thoroughly septic. He could hardly conceive of so extensive a septic involvement without a good deal of pus present. He did not know what it was, but it hardly seemed to him it could be an inflammatory condition pure and simple. He should agree with Dr. Keenan, that it could hardly be beginning carcinoma post-peritoneal.

Dr. J. C. MacEvitt believed if a septic infection was present the inflammatory exudate would be in the pelvis, but there had been no pus in the pelvis.

The argument regarding carcinoma was that he thought of possible carcinoma of the mesentery, because he could not make out the mesentery at the time on account of the mass of adhesions.

#### TREATMENT OF PURULENT SALPINGITIS.

BY DR. H. C. KEENAN.

#### Discussion.

DR. L. G. BALDWIN said that in the first place in the distinction between puerperal and gonorrheal cases, he had never seen a puerperal case with a distended tube containing pus, and from his understanding of the pathology and mechan-

ism of a distended tube, he did not see how it is possible for this to occur in puerperal cases, that it is within two or three days or weeks after confinement. His custom in puerperal cases, ever since he has had anything to do with them is to open the *cul-de-sac*, break up whatever adhesions it seems proper to do at the time, wash them out, pack them with gauze, allow it to remain a week or ten days, and then remove it. The treatment is completed by vaginal douches—no other packing or drainage being required, except in the rarest instances; in fact, he did not know of any instance where he was compelled to remove the gauze for any reason, real or fancied, before the end of the time stated.

In the gonorrheal cases he believed most thoroughly in operating through the abdomen, mainly because he had never become expert enough to isolate them through the vagina from their mass of peri-tubo-ovarian exudate, and open them and drain off through the *cul-de-sac*. He had never felt he could do it with any degree of satisfaction. The tubes at that time are very tortuous, the canal is small in one place and large in another, and it seemed to him it is a most difficult and hazardous thing to do, and he would much prefer to take the tubes out through the abdomen.

Any tube distended, with both ends closed, he believed is better taken out than left in. The possibility of pregnancy is so small that if we can leave part of the ovarian tissue, which is often the case even with badly diseased tubes, he believed that fulfills the idea and is better than leaving the tube.

That there are certain cases of septic salpingitis that get well without any treatment otherwise than rest and constitutional care he believed is undisputed, and he thought these are the cases that get well with the conservative surgical treatment. Many of them recover by simply allowing them to get well. One point that has been particularly impressed upon him is the fact that, in his experience, he did not see distended tubes following normal labor at term. That condition was found following abortion where there are chronic conditions.

DR. W. B. CHASE thought that the distinctions and the conclusions made by Dr. Baldwin were well taken; that there is a field for posterior colpotomy, and there is a field for abdominal work. He believed this opinion was becoming better established in the minds of observers and operators. In acute cases of distended tubes, which are puerperal in their origin, conservatism is best maintained by vaginal incision and packing and

waiting for subsequent development and decision later as to what shall be done in a more radical way. There is a conflict of opinion regarding the safety of doing that. There are some who insist upon making the abdominal incision at the beginning rather than doing it as an alternative or secondary operation.

In cases in which we have any doubt about the diagnosis of gonorrheal salpingitis, it seemed to him that unless there are contra-indications, it is plainly better to open the abdomen, see the real condition and extirpate the tubes, and not do it, as the writer of the paper said has been done largely, to leave a stump, but by carrying the incision into the cornua, thereby diminishing the risk of subsequent infection and the re-appearance of the same trouble in the tube which appeared before. If we are able to make a clear diagnosis regarding the origin of the attack, we will be better prepared to meet it intelligently.

The question of conservatism in the saving of the tubes is certainly most interesting, and he supposed every operator is guided in part by his experience. He confessed that he should be reluctant to leave behind a structure which had undergone such change as we find in gonorrheal salpingitis, with the exception that we would get a restoration of these parts, so that they would be functionally advantageous to their possessor.

DR. J. O. POLAK stated that as the doctor had done him the honor to quote him in his paper, he felt obligated to make a few confessions. This subject had interested him considerably since he had been doing gynecological work, and he had taken very different positions at different times, and had given the vaginal route, he thought, a very fair trial. He believed that the doctor had made it pretty clear that in post-partum and post-abortual cases of purulent salpingitis (acute),—those cases which show tumefaction, and those cases which show evidences of pelvic peritonitis, that posterior vaginal section, wide colpotomy, with incision of the tube, if necessary, is requisite, because in most of these cases it is the peritubal inflammation and the peritoneal inflammation that we feel by the vagina, and that makes up the mass. From the pathology of these cases seldom or ever do we have infectious troubles by continuity—it is usually by the lymphatics to the peritoneum, and the tube, because of its situation in the peritoneal exudate, becomes infected secondarily, and the ostium closed by the peritoneal exudate. There is no question at all that these cases treated promptly by vaginal incision, by isolation of the tubes, by separation

of the adhesions, and raising the tube to its proper height, and even section of its dorsum, or an opening of the fimbriæ by one method or another, does give a most satisfactory result.

On the other hand, in gonorrheal cases—and he had tried it conscientiously, and had had some successes and a large number of failures—vaginal section, unless that section was done during the acute stage of the gonorrhea was a waste of time, and will have to be followed in a majority of instances by secondary abdominal section.

Another point that he thought is often lost sight of, and has been lost sight of in the discussion, is that a majority of these gonorrheal cases are acute exacerbations of a chronic gonorrhea, and we cannot hope to re-establish the normal condition of the tube on account of the interstitial changes which have taken place, by any vaginal or conservative operation. He was surprised to see Dudley go to work and handle gonorrheal tubes, as the doctor has stated, although in his hands these gonorrheal tubes did do pretty well. He saw six or seven of them done by Dudley in succession, where the tube was very largely distended with pus, where he simply opened the tube, washed it out with salt solution, whipped over the serosa and the mucosa, or resected the great distended mass, and dropped the tube back into the abdomen, and Dudley reports a number of cases of pregnancy following.

Dr. Polak believed from the experience that had come to him in the statement of Lawson Tait, that where we have a gonorrheal endometritis, you have a gonorrheal salpingitis, and if we have it on one side we have it on the other, and sooner or later the patient is going to have an acute exacerbation, and the tube is not of much use. In gonorrheal cases, if we are going to remove one tube, it is better to remove both. His preference is to do a supracervical hysterectomy where we have to remove both tubes. The objection to leaving a gonorrheal uterus is, that we leave a gonorrheal focus, and these cases have a certain amount of discharge that is extremely annoying. They do not get along as well as if you had done a supracervical hysterectomy.

DR. C. JEWETT said the value of conservative work upon the tubes is still a question. It can be settled only by further experience. In acute pus tubes he opens and drains from below. When the infection is old it may be better treated by abdominal section as a rule.

After drainage the mucosa of the tubes is often regenerated when the disease has been of short duration. After long-standing disease regener-

ation is doubtful, probably impossible. As a rule, vaginal section must be required later.

In working by the vaginal route the tube is punctured and the rest extended widely with the fingers. Cutting may cause hemorrhage. The advantage of the pack he thought doubtful. The removal and renewal of the pack are painful. He preferred one or two soft rubber drainage tubes. Usually they require no further care or concern, and the woman is spared needless pain.

In a case in which he had operated by the abdomen four days ago for diseased tubes he found both tubes somewhat enlarged and the ends sealed. They contained no pus. The history was that of infection following abortion, and there was reason to believe there had been no gonorrhea. The woman had no children and was very desirous of offspring. Upon one side the condition of the tube was such that it was amputated, and a phimosi operation was done on the stump. On the other side he split the end of the tube. Both tubes were probed, and the mucous and serious edges of the incisions whipped together with running catgut. Some care is always needed to control oozing from the cut edges.

The temperature has not exceeded 100°. Whether the tubes will recover their lumen throughout is a question.

In another case, the day before, he treated the tubes in the same manner.

In pus tubes he had not attempted to save any part of the tube in abdominal operations. He removed the entire tube exsecting the intramural portion. Even when the pus is not infectious the mucosa had probably been destroyed.

Dr. J. C. MacEvitt said that in acute pyosalpinx, whether due to gonorrheal or septic infection, he invariably opened through the *cul-de-sac*. He believed in the puerperal cases the clinical picture is well defined where we have pus in the pelvis and in the tubes. By palpation we make out considerable exudate in the pelvic cavity, practically filling it up. Where we have this condition with a septic temperature of 103 or 104, the proper procedure, in his opinion, is that of opening up through the *cul-de-sac*, with the finger introduced as far as possible, breaking up any sinuses. He had found what he believed to be in some cases the rounded, firm, distended tube.

The after-treatment has consisted of very loose drainage of iodoform gauze, enough to keep the part patulous, and when the opening is quite large, which it frequently is, this he omits if there is any elevation of temperature, he has the gauze

removed and irrigates with an antiseptic solution, until a subsidence of the temperature.

As regards chronic gonorrheal salpingitis, as a rule we can readily make it out by bi-manual palpation. The tube then can be practically outlined, and in such cases the abdominal route is the preferable one. He disagreed with Dr. Keenan that he left a stump of the tube. He cuts as close as possible to the uterus, although he does not take out a conical portion of the cornua. He makes it a practice where the woman is young and desires a family, if the second tube is not seriously involved, to permit it to remain, and many times he has slit the tube, washed it out and brought it together again with catgut, introducing a probe to find it patent after completion. He shall continue in the future to leave a tube unless it is seriously damaged. If both tubes were distended with pus he would remove them. He did not believe in removing the uterus always, except it shows a condition of marked endometritis and is enlarged. He removed it then for the purpose of taking away physical discomfort to the patient. Of late, however, he does a suspension in cases where there is need.

Dr. G. McNAUGHTON said it seemed to him we all do about the same work and are controlled by the individual case with the circumstances attending it. There is one danger in leaving a possibly infected tube that has not been mentioned. He has seen two cases of this kind, and it impressed him sufficiently to make him think of them when he is operating; that is, these two patients became pregnant afterward and carried the children to full term. Both of them had distended tubes of some sort, whether gonorrheal or not he did not know. Both of them developed peritonitis immediately after labor and both of them died within three days. It seemed to him that that is something we ought to take into consideration—that pregnancy is not always desirable. Even if these women desire pregnancy, if we have a suspicion of the tube, it is a question whether they ought to be allowed to become pregnant, or if pregnant, whether they ought to be allowed to go on.

He was surprised at Dr. Jewett that he drains these tubes through the vaginal opening as a rule. He could understand occasionally, very rarely though, that we might be able to identify a tube distended with pus, and then one might take the risk of opening it, but he thought it would be attended with considerable risk, and he would rather leave it alone and remove it at a subsequent operation.



Dr. Jewett added that Dr. Robert Morris opens these tubes, washes them out and drains them from below.

Dr. MacEvitt said that often he had found a mass of pus in the *cul-de-sac* and believed it to be partly in the peritoneum and tube as well, but there was so much inflammatory exudate thrown out surrounding the tissues, that it was impossible to make out a tube. He believed in these cases the physical characteristics of the tube are destroyed in the surrounding inflammatory exudate.

DR. F. J. SHOOP wanted to know how Dr. Keenan discovered these cases were gonorrheal without microscopical examination.

DR. H. C. KEENAN replied they were all clinical diagnoses. Most of the puerperal cases, so-called, had a direct history following labor or abortion. He took that as a puerperal history without regard to whether there was previous gonorrhea or not, and he took it also that they was probably a streptococcus or staphylococcus infection. In the other cases we got a history of symptoms, which would lead us to suppose they were gonorrheal. He found about twenty-nine out of the whole series whose history did not warrant him in making a diagnosis.

As far as what Dr. Baldwin had said about pus tubes occurring only late in the disease, he agreed with him largely. We do, however, sometimes find pus tubes, that is a real sactosalpinx, occurring early. Pozzi says he finds this condition in the puerperal cases, and they must be early, otherwise the septic condition would have killed the patient. Pryor also says he has found pus tubes in some early cases when he has opened up through the vagina.

The main difference in making the treatment of puerpural cases by vagina and the gonorrheal by abdomen is, as Dr. Polak had said, the difference between the way the two germs act. As far as he understood, the streptococci and staphylococci go through the lymphatics; they produce a purulent peritonitis before they produce any inflammation of the tube, and the tubal trouble is entirely secondary, and only very rarely is it primary. The reason why the damage to the tubes is not nearly as complete in these cases as in a gonorrhea, is because the tube may be closed by the inflammatory condition and the mucous membrane saved. With the gonococcus the infection goes out by direct extension through the mucous membrane, and he believed the tube is almost entirely destroyed before the infection reaches the peritoneal cavity.

As to the question of opening up the fimbriæ in these cases, it seems that a tube in which the mucous membrane is swollen and the fimbriæ have turned in, that separating these little strands will not keep the tube open very long. The inflammatory condition is so irritating the peritoneum as to cause an exudate to be thrown out, and he thought that within twenty-four hours adhesions would form and very effectually re-close a tube of that character.

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## MEDICAL SOCIETY OF THE COUNTY OF KINGS.

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### SECTION ON PEDIATRICS.

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JOHN R. STIVERS, M.D., Editor.

The February meeting of the Section on Pediatrics was held Friday evening, Feb. 24. Dr. GEORGE F. LITTLE, the Chairman, presiding.

The paper of the evening was "The Character of the Pulse in Diseases of Children," read by Dr. Wm. M. Hutchinson.

The following cases were reported; by Dr. Bernhard A. Fedde, Rheumatic Chorea.

DR. WM. A. NORTHRIDGE stated that the case of Spina Bifidia which he reported at the January meeting had greatly improved. The tumor had entirely disappeared and the paralysis was much less. The child was able to stand alone. The left knee-joint symptoms were no longer present.

DR. GEORGE F. LITTLE reported five cases of Cerebro-Spinal Meningitis treated by injections of diphtheria antitoxin. In two cases the result was successful, two cases died, and the result in the fifth case was uncertain.

At the March meeting of the Pediatric Section Dr. Archibald Smith reported a case of Angio-Neurotic Oedema.

DR. LE GRAND KERR reported the following case of Mental Deficiency:

S. B., *aet.* 9 years, 1 month.—Parents both living and healthy, denying all history of any physical taint. There are three other children, all healthy. Ages are 8, 5 and 3. On the day of expected confinement, the attending physician was sent for and after examination, predicted the termination of labor in a few hours. Upon his subsequent return, he stayed with the mother for over two hours, then left, with instructions to send for him when the pains were stronger. This

did not occur until just one month and five days later, when delivery was made with difficulty, but without instrumental interference. The child seemed normal from the first, except for a persistent state of malnutrition, which resulted in the changing of its food.

The child had one tooth at three weeks and its eye and stomach teeth at one year. With the cutting of each tooth there was great trouble, but never any convulsions. The patient has never had any so-called "Spells," or anything allied to convulsive movement. In early infancy he developed head nodding, which was persistent. The appetite has always been unusual; the child never seems satisfied and eats ravenously.

Walking was delayed until the third year. The child did not speak until it was four years old. At seven meningitis developed and lasted for five weeks; that is, the patient was seriously ill for that length of time.

The temper is violent and uncontrolled at the present time, and when not pleased the child gives evidence of moral degeneracy. Of course he has not had the advantage of any training, and that side of his nature is beginning to assert itself, as it inevitably does sooner or later in these cases. The head measurements are occipito-frontal, 26; circumference, 22.

DR. ROBERT W. WHEELER read a paper on the "Uric Acid Diathesis in Children." As the paper is to be published, no synopsis is here attempted.

Rankin on "The Treatment of Aneurism by Subcutaneous Injection of Gelatin" (*The Lancet*) affirms that the method of subcutaneous injection of gelatin, first recommended by Lancereaux in 1897, is the latest and most promising medicinal means by which it has been attempted to lessen the dangers and miseries attendant upon aneurismal dilation of an artery. "That the risks are considerable is amply evidenced by the recent unfortunate experience at Guy's Hospital, where two patients died from tetanus in the course of treatment by this method." Both cases were the subjects of aortic aneurism. Although these two patients died from tetanus, the writer states that a third patient who was treated for the same disease, about the same time, and in the same way, was discharged from the hospital apparently cured.

"Where an aneurism is so situated that it can be dealt with by surgical methods these will probably continue to be regarded as the safest and most reliable means of treatment to which the patient can be subjected." According to Huchard,

a 1 per cent. is safer than a 2 per cent. solution of gelatin and an interval of from eight to ten days is advisable between each injection. Rankin says he has not found it possible to introduce into the subcutaneous tissue more than 100 cubic centimeters without producing local pain. Even this amount must be injected slowly. The considerable swelling produced at the seat of injection subsides within from 6 to 12 hours.

The inner aspect of the thigh has been found a more convenient situation than the buttock. At the same time with the gelatin treatment, iodide of potassium was given in ten grain doses three times a day, and with it were combined minimum doses of solution of nitro-glycerine (1 in 100) whenever the pulse tension became excessive, or when there were anginal symptoms. The nitrogenous elements of the daily dietary were minimized and the amount of liquid allowed was kept within narrow limits.

The experience from the number of cases tend to show: "(1) that gelatin injections may, with proper precautions, be given subcutaneously with safety; (2) that they produce a marked and speedy decrease in all the subjective and in some of the objective symptoms presented by internal aneurisms; (3) that this relief of symptoms is only explainable on the theory of a diminution in pressure-effects from shrinkage in size of the aneurismal sac; (4) that this diminution in size, accompanied with marked decrease in the resistance of the tumor-wall was capable of physical demonstration."

Willard, of Philadelphia, in an article, "Sunshine vs. X-rays in Tuberculosis of the Joints and Bones," says:

"Sunlight, fresh air and good food, together with fixation and protection of the affected joint, are the most important agents in the contest with tubercular infection. Direct exposure to the rays of the sun is essential, and all hospitals should be provided with solaria or sun porches, and roof gardens. Patients lying in bed should have the diseased joints exposed to the direct rays of the sun, their head and eyes being protected by green glasses or shades. The joints may be covered with blue, so as to secure easiest passage of the ultra-violet actinic rays, and local medications rich in iodine may be also employed as desired. Tent life on the hospital grounds, or better, in the open pine forest, can be successfully employed through both summer and winter. Sanatoria should be established for tuberculosis of the hard tissues, as well as of the soft.

# Brooklyn Medical Journal.

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BROOKLYN-NEW YORK, JUNE, 1905.

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## FIRST ANNUAL REGISTER OF GRADUATE NURSES ISSUED BY THE MEDICAL SOCIETY OF THE COUNTY OF KINGS.

Acting on the initiative of the Chairman of the Committee of the Nurses Directory, the Medical Society of the County of Kings has issued a most useful Annual Register of Graduate Nurses.

Besides a general list of male and female graduate nurses, masseurs and masseuses, it contains classified lists including the names of nurses speaking languages other than English, lists of nurses preferring special lines of work, of the training schools from which the several nurses have been graduated, a street list of nurses, and other matters of interest to nurses and to physicians.

The directory is intended to aid physicians in the selection of nurses. It indicates the preferences of each nurse for various lines of work, and also the diseases which each dislikes to serve in, all of which information the physician will find of value in his selection of a nurse, and which has heretofore been impossible to acquire from any previously printed register of nurses.

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## THE TREATMENT OF TUBERCULOSIS BY THE BOROUGH OF BROOKLYN.

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The Board of Health of this borough has undertaken the establishment of a clinic for the exclusive treatment of consumption. A suitable building has been secured, and by the time of

distribution of the present issue of the JOURNAL it was expected that work would have already begun.

Tuberculosis in all its phases will be treated, and in addition to the treatment of cases at the clinic, a staff of visiting nurses will be appointed to call at the homes of patients on notification of the attending physicians. Clinics will be held in the forenoon, afternoon and at night.

The entire movement, credit for which in this borough is largely due to the energetic enthusiasm of Dr. Joseph H. Raymond, is modeled after the completely equipped building, established for the identical purpose in Manhattan, under the charge of Dr. Billings. It is planned to equip a second and probably a third establishment for the same purpose, later, in this borough, when the first has been settled on a smoothly working basis and its usefulness has become a demonstrated fact.

The temporary injunction just secured by residents in the neighborhood of the clinic will delay removal to another quarter of the city. The justice, in granting the injunction, expressed his belief that the collecting of a great number of consumptives into a thickly populated portion of the city, for treatment, would result in an impairment of the section as a residential locality.

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## FRIEDRICH VON SCHILLER.

The centennial anniversary of the death of Schiller, which has claimed considerable attention during the past month, referred to him as a poet. It may be interesting to note that the clerical profession and the law were not in his line of thought, neither had he any love for the study of medicine, but this was adopted in preference to the other two. So when in 1775 the school of medicine was added to the Stuttgart School, Schiller matriculated and became a student of medicine. Graduating with the degree of M.D., December, 1780, this was followed by the position of post surgeon to the regiment Augé in the Würtemberg Army. This advancement enabled him to complete his project to print the "Robbers" at his own expense, not being able to find any bookseller that would undertake it.

Schiller's Latin essay on the "Philosophy of Physiology" was written in 1778 and never printed. His thesis at graduation was published according to custom. Subject, "The Connection Between the Animal and Spiritual Nature of Man." This essay was reproduced in the *Medical Journal of Leipzig* in 1820.

From the above it appears evident that Schiller's introduction to the world as a poet and writer was due to the fact that he was a physician which enabled him to secure the position of surgeon in the army, which in turn provided him with the means to publish his essay, "The Robbers," which was the beginning of his literary fame.

WILLIAM SCHROEDER, M.D.,  
Chairman of the History Committee.

## MEDICAL NEWS.

EDITED BY CLARENCE REGINALD HYDE, M.D.

*It is earnestly hoped that all members of the profession, possessing news concerning themselves or their friends, which would interest others, will communicate the same to the News Editor before the 9th of each month. Items for this department should be sent promptly to Clarence Reginald Hyde, M.D., 126 Joralemon Street.*

Dr. R. H. Kingman has moved to 16 Putnam Avenue.

Dr. Alfred E. Shipley announces his removal to 111 Halsey Street.

Dr. John A. Lee announces the removal of his office to 23 Revere Place.

Dr. James M. Kerrigan announces his removal to 171 Gates Avenue, and also, that he will hereafter devote his entire time to the practice of medicine.

Dr. Joseph F. Todd announces the removal of his office to 402 Sterling Place.

Dr. William Y. Finch announces the removal of his office to 124 St. Marks Avenue.

Dr. O. Paul Humpstone announces the removal of his office to 105 Greene Avenue.

Dr. Edwin G. Zabriskie announces his removal to 37 West 54th Street, Manhattan.

The Annual Meeting of the Queens-Nassau Medical Society will be held in Nassau County Court Room, Mineola, Wednesday, May 31. Dr. Samuel Hendrickson will present "Prophylaxis in Tuberculosis;" Dr. Benjamin R. Tupper, "The Feeding of Children."

Dr. John F. Winn, of Richmond, Va., has been elected Professor of Clinical Obstetrics in the University College of Medicine.

The following examination questions were presented to the class in Second Year Anatomy at the Long Island College Hospital, May 11, 1905:

1. Trace the blood from the heart to the right index finger and back again to the heart.
2. Name the structures comprising the Limbic Lobe of the Cerebrum.
3. What is the superior mediastinum? Give its contents.
4. Name all the Ductless Glands and describe the Thyroid.
5. What is "wrist-drop?" Explain its cause.
6. Describe the inguinal canal, the structures through which it passes; Indirect Hernia; Direct Hernia.
7. Describe the common Bile Duct and give its relations.
8. What sinuses empty into the Torcular Herophili? Describe any one.
9. Give the nerve supply of the Larynx and describe one of the nerves.
10. Describe the following:
  - a. Lingual Triangle.
  - b. Gastric Triangle.
  - c. Triangle of Petit.

Examination Questions First Year Anatomy, May 9, 1905.—1. Give the articulations of the Semi-Luna, Tibia, Sphenoid, Sacrum and Radius.

2. What bones form the Ankle, Hip, Elbow and Wrist joints?
3. Where are the following ligaments: the Conoid Deltoid, Check, Posterior Common, Stylo-Maxillary and Y ligament?
4. Describe the deep palmar fascia.
5. Give the origin, insertion, nerve-supply, action, and relation to the subclavian vessels of the scalenus anticus.
6. Name the muscles or tendons which would be severed in an amputation just above the ankle-joint.
7. Give origin, course, relations and branches of the Facial Artery.
8. Give in full the arterial anastomosis of the knee-joint.
9. Describe the Thoracic Duct.
10. Give the formation of the Lumbar Plexus, give branches.

The graduating class of the Long Island College Hospital held its commencement exercises pregnancy, or lactation, it may remain long after ured. Although a galactocoele originates during on June 1, at the Majestic Theatre. The degree of M.D. was awarded to seventy-three candidates. The members of the class are: Messrs. Albers, Bast, Baldwin, Baxter, Beck, Bishop, Borden, Block, Brockway, Brody, Curran, Doran Runaif, Evans, Feigenoff, Freitag, Friedman, Ginsberg, Gluckman, Goldsmith, Harris, Hicks, Housepian, Hover, Hubbard, C. Hyman, S. M. Hyman, Kaspar, Kessler, Kleban, Klemberg, Klyde, Lewis, Lippold, Livingstone, Lynch, Mootnick, Nechamkin, Parsons, Precht, Reigrod, Rex, Robinson, Rogers, Rosenbleith, Resner, Rosenberg, Rothenberg, Russell, Samuelson, Schneider, Schroeder, M. Schwartz, S. Schwartz, Squier, Slutsky, Stevens, Stockman, Thomson, Topping, Unger, Voseler, Ward, Watson, Whelon, Williams and Wolfs.

Dr. Percy Bryant announces his removal to 134 Hawthorne Street.

Dr. Harris Moak announces change in office hours to 1—3, Tuesdays, Thursdays and Saturdays, and 7—8 P. M. Mondays, Wednesdays and Fridays.

Dr. Neil McLeod Whittaker announces his removal to 278 Carlton Avenue. On April twenty-fourth, Mrs. Stella P. Blakeney announced the marriage of her daughter, Z. Peroune, to Dr. Neil McLeod Whittaker.

A very interesting demonstration of practical hospital work was given by the Senior Class of the Long Island College Hospital Training School for Nurses on Friday evening, April 7th. before their friends in the hospital amphitheatre. Different kinds of bandages were applied, an arm was prepared for operation, obstetric binders demonstrated; also the making and changing of beds and bed linen. The exhibition was one of interest, not only to laymen, but to medical men as well, and reflected much credit on those taking part.

A distinguished German expert in school hygiene, Dr. Schmidt-Monnard, of Halle, has found the number of sick among the children attending morning and afternoon sessions by one-half greater than among children who attended sessions in the forenoon only.

The Hygienic Institute of Breslau is making war on mosquitoes. Municipal experts will destroy the mosquitoes which pass the winter in the cellars and basements of houses. Malachite green is to be used for destroying the larvæ in ponds.

After a hard fight the State Medical Society has scored a temporary victory over the osteopaths, who wished to have their method of treatment recognized on the same footing with medicine. The Senate, by a vote of 24 ayes to 19 noes, defeated Senator Davis' bill placing the osteopaths under the jurisdiction of the State Board of Regents and compelling all masseurs to pass an examination. The bill failed of passage by just two votes.

The X-ray operators in the London Hospital used to be injured occasionally by the rays, but nothing has happened since the introduction of the X-ray shields a year ago. These shields are made of thick glass containing a high percentage of lead.

In connection with the above paragraph it is interesting to note that Dr. E. A. Codman, of Boston, reported to the Johns Hopkins Society, a case of cancer in the ring finger of a patient, the result of ulceration from X-ray burn. Dr.

Frederick Baetjer, of Johns Hopkins, who has done considerable X-ray work, shows even more the destructive effect of the rays. It is reported that his hands are "seamed with gashes," and that he has lost nearly every finger nail.

The tenth anniversary of the graduation of the class of 1895 of the Medical Department of the New York University was celebrated recently by a dinner at the St. Regis Hotel, Manhattan. Dr. Eben Foskett presided. The physicians from Brooklyn, Dr. James J. Bowan, who won the Mott medal for a surgical thesis at the graduation; Dr. F. Charles J. Pflug, who was the grand marshal, and Drs. Theodore Burr, Joseph B. Kopf and George J. Mahr, were at the dinner, which included over fifty guests, some coming from Colorado.

The ladies of the St. Mary's Hospital Auxiliary of Jamaica, L. I., are endeavoring to secure funds to purchase an X-ray apparatus for the hospital. A fund has been started, and early this month a euchre concert and dance will be given, the proceeds to be devoted to the purchase of a modern X-ray plant.

Among the hospitals of this city which exhibited at the World's Fair in St. Louis, the following five received silver medals: Long Island College Hospital, Mount Sinai Hospital, St. Vincent's Hospital, Lincoln Hospital and Seton Hospital. None of the hospitals received gold medals, for the reason that they were represented only by photographs.

We regret to chronicle the death of Dr. Heber N. Hoople from pernicious anemia. He was born in Wales, Ontario, 1856, and was graduated in medicine in 1885 from Toronto University, later receiving the same degree from Bellevue Medical College. Victoria College, Coburg, gave him his degree of A.B. in 1878. Prior to his studying medicine he taught English and French in the Chatham (Ont.) High School for a few years.

On May 29th about one hundred physicians of Greater New York tendered a banquet to Dr. Thomas Addis Emmet at Delmonico's. The date was the anniversary of Dr. Emmet's seventy-seventh birthday. The invitations stated that "Dr. Emmet's services to Gynecology have been so great, and his fame is so well established, that in honoring him we shall do honor to American medicine." Since Dr. Emmet resigned as senior surgeon of the Woman's Hospital three years ago, he has given up active practice, spending most of his time preparing a history of the Emmet genealogy.

The thanks of the local profession are due to Drs. McNaughton, Barber and MacEvitt, Committee on Directory of Nurses of the Kings County Medical Society, for the publication of the Annual Register of Graduate Nurses. The book is complete in every detail, is attractively gotten up and fills a long-felt want. It should stimulate the preparation of a more complete book, which should record the name of every nurse in this city registered or unregistered, similar to our medical directories. There is nothing so tiresome as to fuss over individual nurses' professional cards. Surely, the nurses of this borough and Manhattan could appoint a committee to consider the advisability of publishing an annual nurses' directory.

The annual commencement of the Long Island College Hospital was held at the Majestic Theatre, Thursday, June 1. The valedictorian was Cassius Hinds Watson, B.S. (University of Pennsylvania), and the orator of the evening, the Hon. Martin W. Littleton.

The preceding evening, the twenty-fifth annual dinner of the Long Island College Hospital Alumni Association took place at the Pouch Gallery. Dr. John H. Musser, President of the American Medical Association, delivered the address at the annual scientific meeting of the Alumni Association.

The intention of the Department of Health to locate a sanitarium for consumptives at 75 Henry Street, Brooklyn, was frustrated by an injunction granted by Justice Marean. Over a hundred petitioners signed the papers asking for the injunction.

Reports to the Marine Hospital Service, which are probably far from complete, give the number of deaths from cerebro-spinal meningitis in the United States since July 1 of last year as 2,856. There has been a remarkable spread of the disease, and now for the first time the Marine Hospital Service is keeping a separate record of these cases.

The whole number of deaths from meningitis in the State and City of New York is given as 2,315. The disease has also been prevalent in New Jersey, where the number of deaths was 170, and in Massachusetts, where 74 cases proved fatal.

Those cities which have reported both the number of cases and the number of deaths from meningitis throw some light on the comparative mortality resulting from this and other diseases. The chance of death in cases of smallpox, for example, are very small as compared with meningitis.

Of 231 cases of meningitis separately reported to the Marine Hospital Service, 167 proved fatal.

The new \$100,000 pavilion for scarlet fever, attached to the Kingston Avenue Hospital, was recently opened for public inspection. About 2,000 invitations were sent out to public officials and others interested in the work of this department. Owing to the fear of possible contagion, less than fifty people accepted. It is also reported that many who received invitations destroyed them at once, thinking that the paper was infected. This pavilion is 188 feet in length, including sun parlors at either end for convalescents, and will accommodate eighty patients. The furnishings are of antiseptic pattern and the sanitary code is followed out by the elimination of angles in the walls. The building is fireproof, and also has fire-escapes and direct fire alarm connections. On the upper floor is an operating room with the most modern appointments. Also an "irrigating room," to permit nurses to irrigate throats without disturbing the other patients. A home for the nurses will next be built.

Austria-Hungary has 18,000 medical men to take care of a population of 47,000,000. This is only one-half the ratio of physicians that obtains in Great Britain and Ireland.

Dr. Jerome B. Thomas, L. I. C. H., '93, and at present attending physician and surgeon of the Civil Sanitarium at Bagnio, Benquet Province, P. I., has forwarded an interesting report of the medical work at the sanitarium to date. The statistics in the report are too voluminous for presentation here, but are well worth the perusal of every one interested in our Philippine possessions. Dr. Thomas expects to return to the United States this summer.

The following questions for examination in medical jurisprudence were submitted to the senior class of the Long Island College Hospital.

1. Give a definition of medical jurisprudence, and point out the distinction between medical jurisprudence and legal medicine.
2. What are the implied obligations of a medical practitioner in undertaking the treatment of a patient?
3. To what extent does the law impose upon a medical practitioner the obligation of keeping secret the ailments of his patient?
4. State some of the matters in regard to which the opinions of medical expert witnesses are receivable in evidence in courts of justice.
5. State generally the rules of law prevailing in the United States and England in regard to the disposition of the bodies of the dead.

6. Under the law of the State of New York, what are the circumstances which justify a coroner in holding an inquest?

7. Under what circumstances and to what extent is it lawful to perform an autopsy?

8. Under what circumstances is it lawful in the State of New York to induce an abortion?

9. What defects of reason excuse a person from criminal liability on the ground of insanity?

Of interest to the medical profession of this city is the announcement that work has begun on the building of the new Long Island College Hospital. Ground was broken the middle of April, and already considerable headway in excavating has been made. The pavilion for private patients will first be erected. The Hospital has added to its land by buying the two buildings adjoining its property, both on Amity and Pacific Streets.

## BOOK REVIEWS.

INTERNATIONAL CLINICS. Vol. IV. Fourteenth Series, 1905. Phil. and London, J. B. Lippincott Co., 1905. viii, 314 pp., 11., 24 pl. 8vo. Price: Cloth, \$2.00.

The first paper in this volume entitled "The Excessive Use of Drugs in the Treatment of Chronic Diseases, with Reference to Medicinal Intoxication," might be read with advantage by all classes of practitioners. The clinical material used to illustrate what is said is much to the purpose. All the papers have this characteristic; they very clearly state facts and principles and recite histories of cases treated in the hospital wards as illustrations. Distinguished clinicians have contributed papers on treatment, medicine, surgery, gynecology, neurology and pathology, and have filled a book which we have read with much care, interest and benefit.

INTERNATIONAL CLINICS. Vol. I. Fifteenth Series, 1905. Phil. and London, J. B. Lippincott Co., 1905. x, 312 pp., 13 pl. 8vo. Price: Cloth, \$2.00.

The treatment of cardiac asthma, cirrhosis of the liver and cholelithiasis is expounded in three clinical lectures. They are practical. Five papers are devoted to the subject of medicine, five to surgery and several to neurology and obstetrics. The volume ends in an interesting summary of the progress of medicine during 1904 by A. A. Stevens, D. L. Edsall, W. B. Stanton and E. C. Bloodgood. Its perusal will give some idea of the enormous amount of work that is being done by all departments of the profession.

PRACTICAL DIETETICS WITH REFERENCE TO DIET IN DISEASE. By Alida Frances Pattee. *Second Edition.* N. Y., The Author, 1904. xvi, 312 pp. 8vo. Price: Cloth, \$1.00.

The second edition of this book has been thoroughly revised and many additions made. It is an excellent and very useful work upon an important practical subject. G. R. B.

BLOOD-PRESSURE AS AFFECTING HEART, BRAIN, KIDNEYS, AND GENERAL CIRCULATION; A Practical Consideration of Theory and Treatment. By Louis Faugeres Bishop, A.M., M.D. N. Y., E. B. Treat & Co., 1904. 112 pp. 12mo. Price: Cloth, \$1.00.

Since it has become possible accurately to measure the blood-pressure in every day clinical work, the sub-

ject has attracted much attention. The brochure under consideration is a useful contribution, not to methods of measurement, but to the causes and management of the conditions in which high or low blood-pressure is a symptom or a part. The clinical relations of varying blood pressure are so important that a discussion of this kind is always welcome. G. R. B.

THE TREATMENT OF SOME ACUTE VISCERAL INFLAMMATIONS, AND OTHER PAPERS. By David B. Lees. M.A., M.D. Cantab., F.R.C.P. Lond. Phil., P. Blakiston's Son & Co., 1904. viii, 300 pp. 12mo. Price: Cloth, \$1.75.

The three lectures and twelve papers comprising this volume are clearly and pleasantly written. They serve, especially the lectures, to emphasize the importance of careful light percussion in determining the size of the right auricle and left ventricle in diseases of the heart and lungs; the value of moderate venesection in distention of the right heart; the value of the external application of ice in visceral inflammations; and the advantage of giving large doses of sodium salicylate, guarded by twice the quantity of sodium bicarbonate, in acute rheumatism and in chorea. This book is suggestive, offers food for thought, and is well worth reading. G. R. B.

PHYSICIAN VERSUS BACTERIOLOGIST. By Prof. Dr. O. Rosenbach. Authorized Translation from the German by Dr. Achilles Rose. N. Y. and Lond., Funk and Wagnalls Co., 1904. 462 pp. 8vo. Price: Cloth, \$1.50.

The aim of the majority of the twenty-six articles composing this book is well expressed by the translator. "The bacteriologists, by means of fallacious conclusions, have established—in opposition to all common sense—the dogma that all infectious diseases are caused by bacteria, and that all diseases in which so-called specific bacteria are found are infectious diseases. Since this unsubstantiated teaching has become so popular that it is matter of comment in the daily press, and all the world is thus driven to really dangerous bacteriophobia, it is certainly opportune to have Rosenbach's views on such observations."

The style is verbose and labored, and it is difficult to ascertain the author's meaning in spite of the very frequent use of italicized words, sentences, and paragraphs. This work will be welcomed by the chronic objector. G. R. B.

LIGHT ENERGY: ITS PHYSICS, PHYSIOLOGICAL ACTION AND THERAPEUTIC APPLICATIONS. By Margaret A. Cleaves, M.D. N. Y., Rebman Co., 1904. Col. front., xiv, 827 pp., 17 pl. 8vo. Price: Cloth, \$5.00.

A comprehensive treatise upon the theory, physics, and methods of use of light as a therapeutic agent. It is an indispensable work for any one who uses, or desires to use, this form of energy in the treatment of disease. G. R. B.

BEAUTY THROUGH HYGIENE. Common Sense Ways to Health for Girls. By Emma E. Walker, M.D. N. Y., A. S. Barnes & Co., 1904. 306 pp. 12mo. Price: Cloth, \$1.00.

This is a very complete and, on the whole, very sensible book intended for popular use by women, especially those in the hey-day of youth. It deals with such subjects as sleep, bathing, exercise, care of complexion, hair, hands, and feet, clothing, mental hygiene and kindred topics. The major portion of the advice tendered is based upon scientific facts and principles. There is some temptation, for a mere man, to smile at certain recommendations, but on the whole it can be safely commended to those of our women patients who may stand in need of such teachings. G. R. B.



# BROOKLYN MEDICAL JOURNAL

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No. 7.

## ORIGINAL ARTICLES.

### DR HOMER L. BARTLETT: AN ADDRESS.

BY J. E. SHEPPARD, M.D.

*Mr. President, Fellow-members and Friends of the County Society:*

Through the death, a few weeks since, of Dr. Homer L. Bartlett, we, members of the Medical Society of the County of Kings, have lost a fellow-member of forty-six years' standing, and moreover we have all of us lost a friend, one who was for all those years greatly interested in our doings, and who always wished us well. For myself I mourn the loss of a warm personal and professional friend, one into whose genial presence I could never go without the feeling that life was better worth the living because I knew him.

A number of years ago a loving hand painted a portrait of the Doctor, the hand of the artist, Mr. Louis J. Rhead, who has done similar work most acceptably for many people of prominence; but with none of them were there perhaps quite the same incentives to do his best work that spurred him on in Dr. Bartlett's case, for him he loved and admired, and to him, moreover, he stood in the relation of a patient grateful for kind and skilful services rendered by his beloved physician.

Thus are we doubly fortunate in the subject-matter, as well as in the manner of work, of that which we members of the County Society are about to receive.

During the past year when my efforts were directed to the task of providing for you, as far as might be, satisfying programmes, it was a dream of mine to have Dr. Bartlett come here and treat you to a half hour of reminiscence from his nearly fifty years of medical practice, and then in person to present to us this portrait; unfortunately his health did not permit of the former, and his inclination did not lead him to do the latter. Consequently I am here this evening as the mouth-piece of the surviving members of Dr. Bartlett's family, who, in handing over to us this evening the Doctor's picture, are but fulfilling a bequest of his, whose wish it was to live in our memories.

In witness whereof permit me to read this letter:

Mr. President and Members of the Kings County Medical Society,

*Dear Sirs:*—It is with mingled pleasure and pain that I discharge the task given me by my dear husband, Dr. Homer L. Bartlett, in passing over to your possession his portrait, by the hands of our friend, Dr. John E. Sheppard. Dr. Bartlett was a constant, and faithful friend and well-wisher of your Society, and his gift is the expression of his desire to have his memory remain living amongst you, his medical brethren.

Yours truly,

MRS. HOMER L. BARTLETT.

And now, Mr. President, I would I were a word-artist gifted with the power to adequately sketch for you the life-work of him whose portrait you now see. As it is I must content myself with the merest outline of his many-sided life.

Born up among the hills of the Green Mountain State almost seventy-five years ago, of good old Revolutionary stock, he obtained his early education in the local academy in his native town of Jericho, and at the Institute of Bakersfield, New York, after which he taught for three years in the former school. He then began his medical study by "reading medicine," as was the custom in those days, with Dr. J. Hamilton, of Jericho, and later with Professor Willard Parker, then at the zenith of his career in New York, attending lectures in the meantime at the Woodstock (Vt.) Medical College, and the Albany Medical College, and the College of Physicians and Surgeons of New York, from which institution he received his diploma in 1855, in company with Henry D. Noyes, George F. Shrady, Edward W. Lambert, and others since prominent in medical circles. He followed this with a year as interne at the Kings County Hospital.

In the autumn of 1856 he opened an office in New York, but had only been there one week when he received a call, which he believed to be a call from God, and which he felt he had no right to decline. During this same year, 1856, yellow fever had become epidemic in Bay Ridge, Fort

Hamilton and New Utrecht; scarcely a family was there that had not yielded up one or more victims to the dreadful scourge. In commemoration of their deeds of noble self-sacrifice during this epidemic a graceful monument was erected some years later in the old New Utrecht burying-ground to Drs. Dubois and Crane, at the time members of this Society, who, after bravely doing their utmost to stay the ravages of the disease, and to lighten the burdens of the afflicted, themselves fell victims to the pest.



DR. HOMER L. BARTLETT

The call which Dr. Bartlett felt unwilling to decline, was to take up the work thus lain down by these heroes, and his acceptance of it shows plainly the stuff of which he was made. By the following spring, of 1857, the Doctor felt he had finished his work there and removed to Flatbush where he afterwards made his home. In 1859 he completed his membership in this Society, a membership which he continued to the time of his death, nearly forty-six years later. In 1865 he was Vice-President of the Society.

For the next thirty or forty years after his advent into Flatbush, almost every progressive movement of the old town was closely linked with the name of Dr. Bartlett. He originated most of them, and greatly aided the others. The Health Board was due to his efforts, and he was its Health Officer for twelve years, during which time and owing largely to his labors, that stench in the nostrils, the piggeries, were removed from the so-called East-side lands, and the way paved for what is now the beautiful Institute Park. He was also largely instrumental in securing a Police Board for the old town, and was its first President. He was a trustee of Erasmus Hall Academy; a school commissioner of the County of Kings for three years; an active member of the Long Island Historical Society; originator, and for two years President, of the Midwood Club. At one time he devoted much time and study to Freemasonry, and was master of his own lodge for five years. He was a director in the Water Company, the Gas Company, and the Trust Company of Flatbush.

From 1857, the time of his return to Flatbush, until his death, he was a consulting physician to the Kings County Hospital; for many years physician to the Penitentiary; he was a member of many medical societies, local, state, and national; he, moreover, wrote many medical and medico-historical papers, and was besides a frequent contributor to the daily papers, being the author, amongst other things, of a series of "Sketches of Long Island," some of them strictly historical, while others are romances from old legends. In addition to all these activities, and crowning them all, he was the beloved physician. His practice was a large one, and extended over a wide territory, reaching from Canarsie Bay to the Narrows, and from Brooklyn Heights to the Ocean.

This brief outline will, I hope, convey to you some idea of the varied activities and accomplishments of this many-sided Doctor. It may be truly said of him that he went about doing good.

This, Mr. President and fellow-members of the Society, is my lame attempt to sketch for you the man—the physician—Dr. Homer L. Bartlett, whose portrait it is my pleasure, on behalf of Mrs. Bartlett, to present to you this evening. That it may establish a precedent, and be the forerunner of many such presentations from our former office holders is my earnest wish.

## THE TEACHING OF ANATOMY.

BY WILLIAM FRANCIS CAMPBELL, M.D.

Professor of Anatomy, Long Island College Hospital,  
Brooklyn, N. Y.

In a medical education Anatomy is the corner stone. In a medical curriculum, it is the pivotal point around which the other branches revolve, and without which they cannot move. Anatomy therefore being fundamental, basic, germane, it should not only occupy a large portion of the student's time, but occupy it in such a way that the mere acquisition of anatomical facts will be secondary to the mental discipline and grasp which can be attained by proper anatomical teaching. The one idea which permeates the anatomy course at Long Island College Hospital is to teach the student to think anatomically. "*Denke anatomisch, wenn Du Ein Arzt werden willst.*" If the student can be made to feel the significance of this, if his mind can be given an impetus in this direction, his torch has been well lighted; the remainder of the curriculum and his professional career will become luminous because of correct mental attitude. Froebel in his kindergarten system exploited a principle of education not alone applicable to the child mind, but of equal utility in educating the adult mind. We can learn through the exercise of one sense or of a combination of the senses. The most comprehensive knowledge is acquired through a combination of the senses. We can get some perception through the ear, but how much better when the eye and ear act together, and still better when the hand is added to the eye and ear. We learn best by doing. The student will learn some anatomy by the lecture, quiz, recitation. He will learn more when the picture is shown, the demonstration made; he will learn most when he can take the human body apart and examine its component parts by dissection, or construct the various parts in clay or other kinds of models. The best method of knowing a machine is to take it apart and put it together. The ideal course in anatomy would require the student to take the human machine apart and put it together. This task accomplished, the student becomes the anatomist. This ideal method being impossible, that course of anatomical study is best which most closely and practically approaches this basic principle. Lectures, recitations, quizzes are useful, but they are subsidiary: they have a place in the teaching of anatomy, but it is a minor one. The teaching of anatomy by oratorical efforts has been consigned to the medical junk-shop to

share the fate of the lance, the poultice and the carbolic spray. The eloquence of anatomy speaks in the wondrous mechanism of the human body, and reveals itself to him who wields the scalpel in a spirit of reverence and humility. The course in anatomy at Long Island College Hospital we divide for purposes of description, into three parts: Didactic, analytic, and synthetic. The didactic course consists of lectures, recitations, demonstrations, and quizzes. Every department of systemic anatomy is made the subject of recitation from the text-book accompanied by demonstrations with charts or dissected cadaver. These recitations are closely followed by compulsory quizzes in which the work is reviewed and the important points accentuated. Thus, the student receives his text-book instruction twice, first from the instructor, second from the quiz master. In the second year lectures on surgical anatomy are given and thus is formed the connection between the anatomical facts and their clinical application—a most important part of an anatomical course. For here the student begins to appreciate the object and utility of his anatomical facts, his interest is stimulated and his enthusiasm renewed as he realizes the practical application of the knowledge already acquired. The analytical part of the course consists in, first, a laboratory course in embryology. No correct appreciation of anatomy can be acquired without a knowledge of a relation which embryology bears to the adult structure. The second part of this course consists in dissections of the human body. Each part is dissected twice, and while we value the dissection for its own sake, we believe that much in addition to the appreciation of anatomical structures can be taught. Neatness, cleanliness, the *tactus eruditus*, habits of observation, examination, description, all these make the course of value in the moulding of a well rounded physician. No longer is it necessary for the student to pursue his dissection amid the foul odors of putrescent cadavers. We hold that the habits of cleanliness should be taught in the dissecting room: that it should be practically as clean as an operating room: that dissection should be made with the same care, accuracy, and respect for structures as if it were an operation upon the living. We believe in the use of rubber gloves: that the habit of wearing them should be begun here in order that the student may acquire facility in touch and manipulation, and lastly for the protection which they afford the wearer.

We seek to promote habits of observation and description by a system of drawings in which

each student is required to present four drawings of the part under dissection, each drawing representing various stages of the dissection. The drawings are required to be outlined in ink, and the names of the various structures printed in ink. Many of these drawings are veritable works of art, as many of our students have elaborated upon the requirements, using colors to represent the different structures. The best of these drawings are framed and hung in the anatomical laboratory. This gives a stimulus for the production of fine work as the walls of our laboratory will attest. These exercises in drawing are of the very highest teaching value. They impress relationships of anatomical structures, they form an indelible mental picture, the printing of the names of structures gives the student a correct terminology.

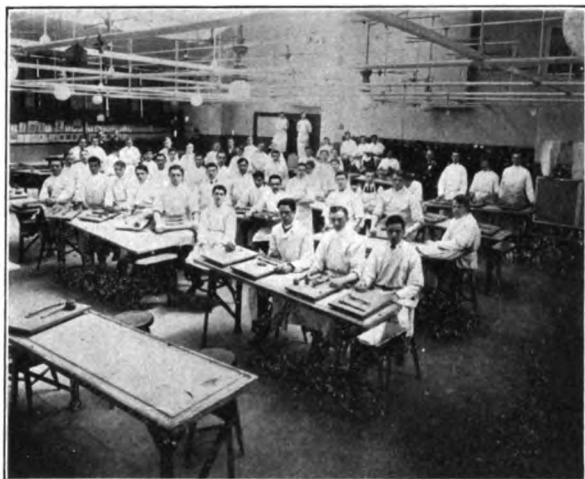


Fig. I. Anatomical Laboratory. Class in Clay Modeling.

The improvement in the student's facility in drawing has been marked. Many who at first wished to be excused because "they never could draw," have subsequently presented specimens which merited the recognition of a frame and a place upon the laboratory walls. To students who at first demur because they feel a lack of artistic training we say, "Any one who can write can draw." The results have amply proved the truth of this statement.

The synthetic part of our course is in the stage of development. It is not complete but we believe it is evolving on the right lines, and will be of supreme value in making not only anatomists but physicians. We learn by doing. When we create we crystallize into form a part of ourselves. What we create we cherish. By cre-



Fig. II. Specimens of Work Modeled by First-Year Students.

ating we call into action the highest faculties of the mind. It is the development of this faculty for making or creating that forms the most valuable part of our teaching technique. Modeling in clay is not new, and its value in teaching anat-

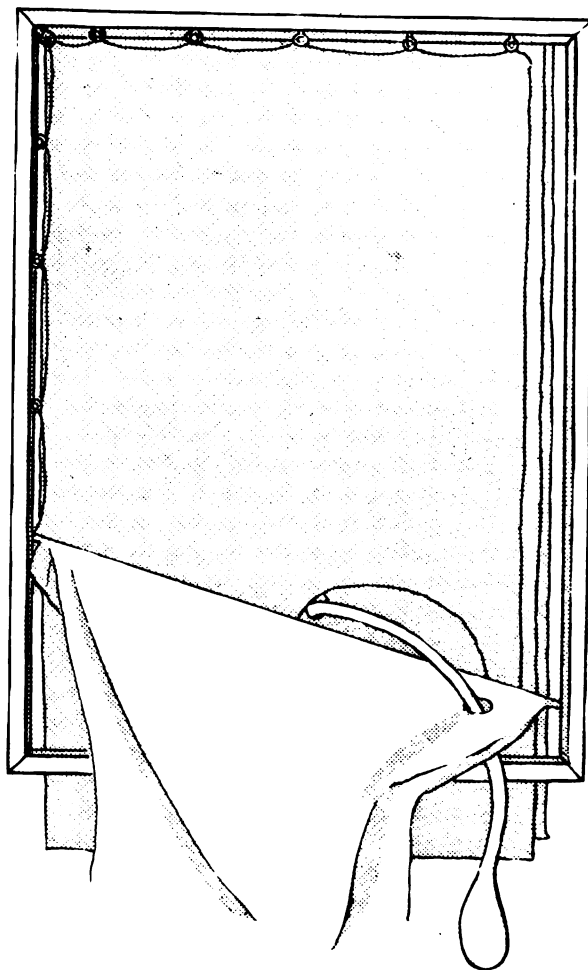


Fig. III. Model Demonstrating Abdominal Wall and Original Canal.

omy is being recognized in our most advanced colleges. Clay modeling of the bones or the brain is of inestimable value for teaching purposes. When the student reads about a bone he gets some faint conception of it. When he sees a picture he gets a better idea, but his idea is limited to two dimensions, length and breadth. The student must handle the bone to comprehend it in three dimensions and when he reproduces an accurate model of the bone in clay he has a minute and lasting impression of the bone. The same is true of the brain, and it is doubtful if a student ever gets a correct idea of the brain until he builds a brain. But clay modeling has its limitations and can be utilized only in a limited field. We feel, however, that this idea of making models of parts of the body is of such inestimable value in teaching, that we have extended the work still further and require our students to make models out of various suitable material. Here we depend largely upon the ingenuity of the individual student, simply suggesting the general lines on which the model is to be constructed, allowing him to display his originality. The general plan is the following:

The structure to be modeled is announced, and the general plan discussed before the class. Two weeks is usually allowed, at the end of which time the models are presented and criticised. To illustrate: We model the muscles of the abdomen and the inguinal canal by the use of a wooden frame, different colored muslins, and rubber tubing. (See figure III.) The sinuses of the brain are modeled by the use of cardboard, cut to represent the falx and tentorium, and rubber tubing properly attached, the various sinuses. (See figure IV.) The uterus and appendages can be modeled by the use of an open frame box, in the center of which is suspended the uterus in its broad ligaments of muslin, with ovaries and round ligaments properly attached. (See figure V.) The triangles of the neck, the gall bladder and ducts, and other viscera, are merely suggestive of what can be done in this line. The important relationship of veins, arteries and nerves by the use of different colored rubber tubing is a very simple but effective means of teaching.

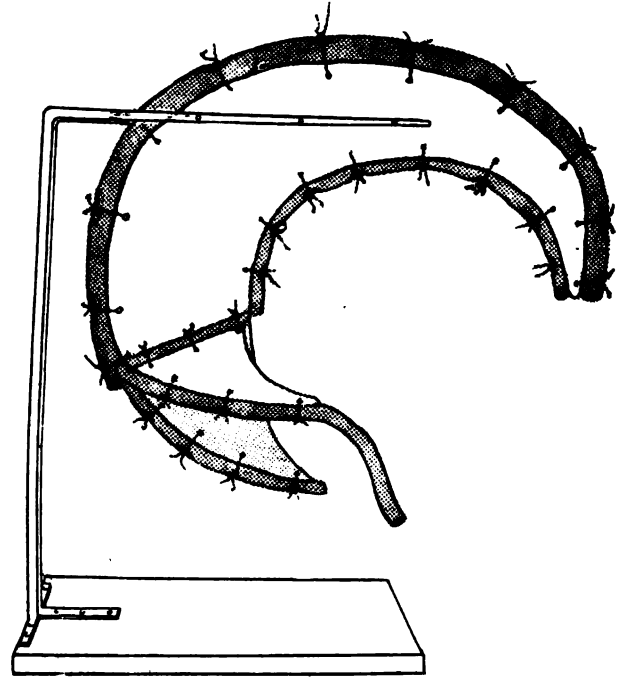


Fig. IV. Model Demonstrating Sinuses of the Brain.

The above is simply a resumé of our present course in anatomy. That it is effective is attested by the satisfactory results obtained and the uniform approval of the student body. To take the dryness out of anatomy and give it vital meaning; to put the spirit of play in the work; to make the study recreative and not a grind—shall we not resort to kindergarten methods if they accomplish the results? After all, the business of the teacher is to teach the student to teach himself. For the teacher is not merely a purveyor of facts, but he is the creator of an atmosphere in which thought grows, endeavor is stimulated, and ideals inspired.

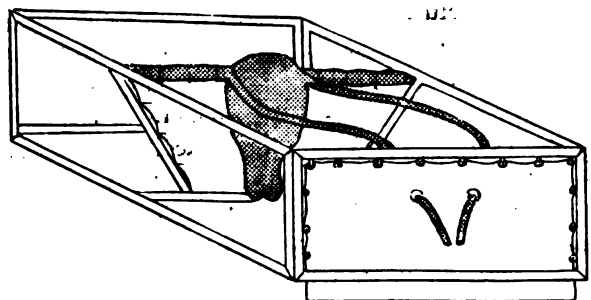


Fig. V. Model Demonstrating Uterus and Ligaments.

**A FREAK CASE OF APPENDICITIS.\***

BY LOUIS L. NICHOLS, M.D.

My patient is a newspaper man about 30 years of age. He inherited a nervous temperament, but has been in fair health with the exception of an attack of typhoid fever some six years ago. He recovered from this without complications. There was no history of indigestion or colicky pains preceding his acute attack of appendicitis, which came on gradually Sunday morning, Oct. 25, 1904. I saw him first about 7 o'clock the same evening. He had been vomiting all day and his pain was spasmodic in character and distributed over the whole abdomen. There was no distention and no especial point of tenderness. There had been three or four attempts to go to stool, but with little result. There was no irritation of the bladder. The pulse was 100, and the temperature 99°.

With these symptoms I was apprehensive of appendicitis and warned the family as to what to expect. The patient was ordered 1-10 gr. doses of calomel half hourly, to be followed in the morning by magnesia sulphate.

When I saw him on the following morning there was slight local tenderness in the right iliac region, with some distention and rigidity of the right rectus muscle. Vomiting had ceased, but the bowels had not moved. The temperature was 99½° and pulse 106, and of good character. An ice bag was ordered applied over the tender point and magnesia sulphate continued till free catharsis was established. My patient had passed a restless night with but little sleep and he had a worried expression. A consultation was advised and held that afternoon with Dr. Walter Wood. During the interval which elapsed between my morning visit and the hour of the consultation the patient's bowels had been freely evacuated and he appeared much better in many ways. The pain had practically subsided; there was very little tenderness or rigidity, the most tender point being well over against the crest of the ilium; there had been no return of the vomiting during the day and the distention was gone; my patient had lost his worried expression, was hungry and wanted to sit up. In fact the improvement was so marked that I began to doubt the accuracy of my diagnosis. Dr. Wood confirmed the diagnosis, however, but it was believed at this time that we were dealing with one of those catarrhal cases of appendicitis which so often shows improvement after the free use of salines, and that

the case would gradually go on to recovery without surgical intervention.

How remote from the actual facts in the case our conclusions were, became evident from subsequent events. To be sure my patient, from this hour, went on to complete recovery but in a way quite different from what we anticipated. The more severe symptoms gradually abated, the temperature and pulse slowly returned to normal, but in the meantime a mass in the right iliac region became clearly defined. There was slight tenderness to pressure over this mass and indisposition to move about in bed because of the board-like feeling over the region and pain caused by such motion. The patient's tongue did not clear nor the appetite improve as they should do with a case getting well. While I was speculating over the final outcome in a case presenting these unfavorable symptoms, and trying to decide upon the safest course to pursue, Nature solved the problem for me in a most novel and unexpected manner. One week from the beginning of the attack my patient passed a very restless night, complaining of discomfort and tenesmus in the bowels. In the morning there were several loose stools and in one of them something which attracted the nurse's attention. On examining it I found what appeared to be a very much attenuated appendix about 2½ inches long, with a perforation at the distal end. I submitted the specimen to Dr. Wood and he was skeptical about its true character. I then sent it to Dr. Archibald Murray for examination and his report follows.

After his auto-operation my patient's recovery was rapid and without complication. The mass in the right iliac region gradually disappeared, and three weeks from the onset of this attack he was perfectly well, and has remained so to this day. Had not a very watchful nurse rescued this appendix from the bed pan we should still labor under the delusion that my patient's anatomy remains intact as it was originally created and that he simply suffered from an attack of catarrhal appendicitis.

This case was rare, but there have been other similar cases recorded. How many unrecorded cases there may have been where a sloughing and unrecognized appendix has passed from the bowel into the sewer we shall never know.

My object in presenting a freak case of this sort was not because of any particular interest attaching to its novelty, but to draw out discussion on the following points:

\* Read before Long Island Med. Soc., June 16, 1905.

1. Should we have operated upon my own case at the time of the consultation or subsequently; and can we formulate any safe rule to guide us in the management of similar cases?

2. Should every case of appendicitis be treated surgically and operated upon as soon as a diagnosis can be made, other conditions being favorable?

3. Or should we adopt the expectant plan and treat each case according to the symptoms as they arise?

By which plan can we effect the greatest number of cures?

Brooklyn, Oct. 9, 1904.

Dr. L. L. Nichols, Brooklyn, N. Y.

*My dear Doctor:*—I have made sections from the tissue sent me, but it is absolutely necrotic and refuses to stain. Still, outlines of what were probably once glands, lymphoid elements and a muscular and fibrous coat can be made out and I should not hesitate to call the specimen an appendix. I have put it aside for you.

Very truly,

ARCHIBALD MURRAY.

386 Stuyvesant Avenue, Brooklyn.

In his recent work on the "Vermiform Appendix" Dr. Howard Kelly has collected the history of four similar cases.

#### CLINICAL TYPES OF PUERPERAL INFECTION.

BY JOHN O. POLAK, M.S., M.D.,

Professor of Obstetrics Dartmouth Medical College. Professor of Obstetrics N. Y. Post graduate Medical School and Hospital and Assistant Professor of Obstetrics and Gynecology in the Long Island College Hospital.

The main object of this brief paper is to discountenance and discourage a popular impression, which has become firmly rooted in the minds of many practitioners, *i.e.*, that all sepsis is primarily treated by the curet.

This fallacy has raised the mortality and the morbidity of puerperal infection, in private practice, so that to-day it is little better than it was in pre-antiseptic times. This, however, is not the case in institutional work.

Four distinct types of infection are presented to the observing clinician, each having a distinct pathology, a more or less definite symptomatology, in the early stages of the process. A treatment which may be beneficial in one form, may be detrimental in another.

Many lesions may result from puerperal infection, the changes may be local or general, or both combined, dependent upon the nature and the

virulence of the organism, the state of the woman's health, the condition of her pelvic tissues and the site of infection.

Puerperal ulcers of the vulva and vagina are torn and bruised areas, on the surfaces of which micro-organisms have grown. These are covered with dirty, yellow gray, necrotic tissue, which discharges pus, often presenting the appearance of diphtheritic membrane. In rare instances the Klebs-Loeffler bacillus may be the cause of these patches. They are commonly due, however, to the streptococcus, though other pathogenic organisms may produce them. The edge of the patch is usually œdematous and there is more or less surrounding swelling.

The *cervix uteri* may undergo the various morbid changes found in the vagina, lacerations and abrasions, which are produced in every labor, afford a favorable soil for the growth of various micro-organisms and because of the abundant lymphatic chains draining the cervix and the impaired resistance of the lower uterine segment, occasioned by the bruising of these structures in every labor, invasion of the neighboring pelvic tissues is favored.

Infection through the cervix may develop as a *pelvic cellulitis* within the folds of the broad ligament or as a *peritonitis*, or if the infecting organisms are of sufficient virulence, as an *acute general septicemia*. Or the infection may remain localized as a cervical ulcer.

THE UTERINE BODY, however, is the most frequent focus for infection, in the remains of the mucosa or more commonly in the region of the placental site. In some cases the surface is bathed in pus, in others it is covered with a dirty, yellow gray membrane of necrotic decidual tissue and fibrin diffused over a wide area or localized in one or more patches. Thick shaggy masses may be found on the placental side containing foetal remains or they may consist entirely of fibrin and shreds of decidua or the lining of the uterus may have a dark green gangrenous appearance.

When saprophytic organisms are present, the lochia is *fetid* and bubbles of gas may be noted in the discharge. Pyogenic organisms may be present at the same time, producing a mixed infection.

When the pyogenic bacteria are present *alone* ODOR AND GAS are usually *absent*.

In putrid endometritis the uterine wall is enlarged, relaxed, and softer than normal, and it is often very friable. This relaxation promotes the extension of the infection as diminution of pressure on the veins and lymphatics make it



easier for micro-organisms to pass beyond the uterus. Small collections of pus may form in the lymphatics and veins and in the latter thrombi may be found in various stages of suppuration. Abscess formations in the uterus aside from those in the lymphatics and veins are rare.

A brief statement of the microscopic and macroscopic changes which actually take place in a septic endometritis will help us to have a better understanding of the indications to be met in the treatment.

In infection by streptococci and other pathogenic organisms, the superficial portion of the endometrium is hyaline in appearance, being altered by a coagulation necrosis; this is found as a thin irregular layer, *less marked than in cases where putrefactive organisms* are at work.

Underneath there is a zone of LEUCOCYTIC INFILTRATION, varying in thickness and forming a more or less continuous barrier against further invasion. *The more virulent the infection, the less marked is the development of this layer.*

If the organisms are not virulent, they are seldom found deeper than the leucocytic zone, on the other hand, when the invasion is of the pure streptococcic type, the organisms promptly spread outward into the musculature through the lymphatics AND ARE BEYOND THE REACH OF INTRA-UTERINE TREATMENT. When the infection has occurred at the placenta site, the invading cocci are found in the thrombi filling the divided sinuses and extending along the vessels as a uterine and pelvic phlebitis.

IN PUTRID OR SAPHROPHYTIC ENDOMETRITIS the superficial necrotic layer is generally thick, the micro-organisms are on the surface as well as in the necrotic layer, BUT ARE UNABLE TO PENETRATE THE LEUCOCYTIC ZONE.

In cases of mixed infection by putrefactive and septic organisms, the former are found mainly in the necrotic layer while the latter may be found under it or deeply penetrating the surrounding musculature.

The fourth type is that of acute general septicemia, due to an invasion by virulent streptococci. Under the circumstances there may be little or no local change in the uterus or the surrounding organs, the intensity of the poison being so great that death takes place before the leucocytes have time to offer a defense. Pure streptococcic cultures are usually found in the blood.

Having thus briefly gone over the principal points in the pathology, we may now take up the diagnosis and symptomatology. This, I think,

may best be done by the presentation of a few clinical histories, illustrative of the types under consideration.

Case 1. A primipara, 24, always in perfect health until her confinement, which was difficult, owing to a delayed second stage, due to an occipito-posterior position of the vertex. The physician in attendance applied forceps, using them as rotators and tractors. She sustained an extensive laceration of the vagina and pelvic floor, which was not repaired. The first three days of the puerperium were without incident; on the morning of the fourth day she was seized with a chill and the temperature rose to 104.5, and the pulse to 120. She was given a cathartic, quinine, and a vaginal douche, and as the temperature did not come down under this treatment I was asked to see her on the evening of the same day. At that time her temperature was 105, pulse 132, and respiration 32. There were no abdominal symptoms, the tongue was coated, but moist; the fundus two and one-half inches above the pubes, and the uterus firmly contracted, movable, and not tender. There was no parametric tenderness on deep pressure.

The patient was placed across the bed, in a good light and the vulvo-vaginal orifice carefully inspected. There was a slight skin tear at the posterior fornix and deep, irregular vaginal tears, going up each lateral sulcus, nearly to the cervix; the torn surface was covered with a dirty, yellow gray, necrotic membrane, discharging pus. The vagina was carefully irrigated with a saline douche and a speculum inserted to expose the cervix. There was a small unilateral laceration of the left side, the surface of which was covered with a pseudo-diphtheritic membrane. The uterus was not entered, as its mobility, degree of involution, lack of tenderness, etc., excluded infection from this source. The cervix and vagina were now carefully dried with sterile cotton and the infected areas thoroughly exposed and pure carbolic acid painted over the surfaces involved. This was neutralized in two minutes with absolute alcohol. Nothing further was done. The after-treatment consisted of a vaginal irrigation of one gallon of normal salt solution twice daily, given with the bag low. The vaginal wounds were dusted after each irrigation with a powder consisting of iodoform one part and boracic acid seven parts. The temperature dropped promptly after this treatment and the woman's recovery was rapid and uneventful. She has subsequently had her pelvic floor repaired.

Case 2. A multipara, was delivered by a midwife, of her seventh child, seventy-six hours prior to my seeing her in consultation. The labor had been easy and quick. She stated that the baby had been born before the arrival of the midwife and that no internal examinations had been made. The placenta had been expressed by Credè. No douches had been given until after her fever had begun to rise. She had had a chill, the temperature was 104.1, pulse 90, and respiration 28. The face was flushed, she complained of severe headache, the tongue was heavily coated, but moist. The abdomen was tympanitic, but soft, and not tender except directly over the uterus. The fundus was at the umbilicus, the body relaxed, though it could be made to contract, but not to retract and remain so. The uterus was movable, but its excursions caused pain. No parametrial exudates were appreciable. THE LOCHIA WAS PROFUSE, DARK AND FETID. No blood count was made.

After carefully sterilizing my hands and cleansing the vulvo-vaginal orifice, the patient was placed upon a table and anesthetized. When the narcosis was complete, the bladder was emptied by the catheter and the gloved hand passed into the vagina. There was an old bilateral laceration of the pelvic floor, the cervix was open and patulous to two fingers. The fingers were passed into the uterus and its cavity was next explored, the placental site was rough and studded with blood clots and in the right anterior lateral corner there was a shaggy, irregular mass of membranes and blood clot. The entire internal surface of the uterus was raked over with the finger tips, aided by the supra-pubic hand, which made pressure on the fundus and the uterine contents that could be removed, evacuated. This digital curettage was followed by a hot intra-uterine douche of normal salt solution to wash away the loosened debris.

The after-treatment in this patient consisted in the hypodermic use of ergotole in 20 drop doses, for the first three days, when a post-partum pill of ergot, quinine and strychnia was substituted. NO DOUCHES OR FURTHER INTRA-UTERINE TREATMENT OF ANY KIND was employed. The patient was managed symptomatically as the indications arose, and the recovery was uneventful. This was a case of putrid endometritis.

The next case began as a putrid endometritis and is presented in order to illustrate the effects of meddlesome and ill-directed interference. The patient was a multipara, her last labor had occurred six and a half days prior to my seeing her

in consultation. The attending physician stated that the case had required and that he had used low forceps after the cervix was fully dilated. The puerperium had been uneventful until the morning of the fourth day, when the patient complained of headache, had a temperature of 103, and a pulse of 90, no appetite, and marked malaise. THE LOCHIA HAD BEEN PROFUSE AND THERE WAS SOME FETOR. On the evening of the fourth day the doctor in attendance called in a friend to see the case with him, who curetted the woman with a sharp irrigating curet. Some shaggy masses of membrane and blood clot were removed, but the curettage caused such a free hemorrhage as to embarrass the operator and necessitate the tamponade of the uterus to check it. The patient's pulse rose to 130 and the temperature kept at 104. On the following day she complained of severe pain in the left inguinal region and developed marked tenderness just above Poupart's ligament on the left side. About sixty hours after the curettage I was asked to meet both gentlemen in consultation. Her temperature was then 104, pulse 118, of fair quality; respiration 26. There was a faintly bilious injection of the conjunctiva, the tongue was coated, a dirty brownish streak ran through the centre and the edges were moist. She complained of headache and malaise.

The abdomen was distended, but the tympany was soft and there was no muscular rigidity until the left inguinal region was reached, at which point the abdominal tension was extreme. The patient was placed across the bed and a thorough pelvic exploration made. There was noted a slight unilateral tear of the pelvic floor and an old bilateral laceration of the cervix. The uterus was high up in the pelvis and pushed to the right, its mobility was limited by fixation of the left broad ligament. An exudate extended well above Poupart's ligament on the left side. It was very hard, and by rectal exploration it was shown to be within the folds of the left broad ligament. The interior of the uterus was not explored as the internal os was closed, and the lochia sanguinous in character. This patient had no local treatment except an external application of a fifty per cent. solution of ichthyol in lanolin, under rubber tissue. This was placed over the left inguinal region and enemata given to keep the lower bowel free from fecal masses, which are a great source of pain in pelvic inflammations.

The general treatment in this case was supportive and expectant; she was given a forced fluid

diet, and strychnia, iron, ergot and quinine internally. The temperature remained between 101 and 103 for about ten days and then gradually subsided. On the twenty-third day it rose to 102½, and the patient began to complain of a severe, deep-seated, boring pain in the left leg and thigh, the superficial veins were distended and prominent, and a femoral phlebitis developed. THE LOCHIA HAD REMAINED BLOODY DURING THE ENTIRE PERIOD OF THE PUERPERIUM, a fact which I have observed in connection with every phlegmasia which I have had occasion to see. The limb was placed at rest, in a slightly elevated posture, and 50% ichthyol and elastic pressure employed to control the pain and swelling. This new complication gradually subsided and the patient recovered without further incident. *In this case the leucocytic zone had been penetrated with the curet and the infection spread into the parametrium.*

Case 4. A young primipara, a blonde, was confined by a midwife, of a girl baby, after a very easy labor. The midwife had helped her by dilating the pelvic floor with her fingers, using vaselin as the lubricant. Twenty-four hours after her delivery she had a chill, fever and severe headache, and a physician was called in. He prescribed some quinine, phenacetin and calomel, and saw her again in the morning. Her condition was no better and he asked me to meet him at noon, forty hours after the delivery. When I saw the patient her face was flushed and anxious; she was suffering with a severe headache, restless and prostrated; the temperature was 105.5, the pulse 110, the respirations 30, the tongue was coated, dry in the center, but moist at the tip and edges. There was no tympany or tenderness of the abdomen, the uterus was contracted and retracted for the period of the puerperium was movable and not tender. THE LOCHIA WAS SANGUINOUS, SCANT AND FREE FROM ODOR. The uterus was explored and found empty; this digital exploration was followed by an intrauterine douche or normal salt solution and the pelvic organs left alone. The leucocyte count was 11,000 and there was no increase in the relative number of leucocytes four hours later; the polynuclears were 89%. Twenty-four hours later streptococci in pure culture were demonstrated in the blood and albumen was present in large quantity.

This patient was treated by stimulation, a forced fluid diet, intravenous injections of collargalum of 1-1000. Her temperature began to fall on the eighth day and reached normal on the twelfth; from then on her convalescence was satisfactory.

The points that need emphasis in puerperal infection are:

*First.*—To remember that all infection has its primary focus in either the vagina, cervix or uterus and before instituting any form of treatment it is necessary to make a careful inspection and exploration of the pelvic organs, particularly a digital exploration of the interior of the uterus.

*Second.*—Remove placental remains, secundine and blood clots with the fingers, not a CURET, and wash out the loosened debris with an intra-uterine douch or normal salt solution. Such a procedure will not disturb the PROTECTIVE LEUCOCYTIC ZONE.

*Third.*—When the uterus has been emptied in this manner, secure its firm contraction and retraction by ergot and thus minimize further invasion through the lymphatics and veins.

*Fourth.*—Parametric exudates and exudative peritonitis are conservative and protective processes to the patient and should not be disturbed during the acute stage unless evidence of supuration can be demonstrated. Rest, heat, ichthyol, and patience will clear up most of these exudates.

*Fifth.*—In acute suppurative peritonitis of puerperal origin, free *cul de sac* incision and isolation of the uterus with 10% iodoform gauze, maintaining the patient in Fowler's position gives better results than more radical surgical intervention.

And finally to combat the organisms already in the circulation, blood washing with normal salt solution meets the indication.

#### SOME PHASES OF MENTAL DEFICIENCY IN CHILDREN.

BY LE GRAND KERR, M.D.

Read before the Section on Pediatrics, March 29, '05.

The term "feeble-minded," as it is very commonly applied to all grades of mental deficiency in children, is too general. It classes the cases of simple backwardness with those of a severer type. The same care should be used to distinguish by term, what we do by diagnosis. My own choice would still be somewhat general, but more distinctive, and in the few remarks which I shall make to you, the following use of terms will apply. Idiocy, covering all of the lower grades; imbecility, the higher grades of mental defect, and feeble-minded to include such children as present to us an amount of mental deficiency, disqualifying them from the advantages which other children derive from education.

Observations made upon nearly two thousand children lead me to believe that about six per cent. are mentally dull, and that of that six per cent., one-third require training and educational measures peculiarly adapted to their mental condition. I do not claim for these figures more than is in them, namely: a careful observation, and that was necessarily influenced by histories given by parent or teacher, but they give to us some idea of the fairly large proportion of these cases.

*Etiology.*—It is neither scientific nor logical to attribute a mental deficiency to some one cause, when a little care and search would reveal other causes largely contributory. Not every parent of marked unstable nervous system begets an idiot, but an inherited nerve instability, fostered by repeated injudicious habits, and these passed down to the offspring with unfavorable surroundings, result often in mental degeneracy.

Physical conditions have a wide and large influence upon mental deficiency; not alone as factors in the prolongation of the trouble, but there is always an intimate relation between the physical and mental states.

Syphilis, tuberculosis, intemperance of parents, epilepsy, and the marriage of relatives perpetuating family weaknesses, are all prominent as contributory causes; not singly, but in varying combinations.

The use of forceps at the time of birth has been a much-heralded cause; there seems to be but little ground for its acceptance as such, while the non-use of them, resulting in a protracted labor, is without question an important element.

There is often difficulty in getting a fair history. Parents will almost invariably deceive as to causes acting before birth and will be inventive in attributing all of the trouble to causes acting after birth. Yet, these are mostly co-incidental; they bring the thing to a focus, but there has been previously, the predisposition.

Still, there can be no question but that traumatism, fright and mental shock each play an important role.

All of these same causes of the severer types, acting in a lesser degree, may be the etiological factors in the mildest type—feeble-mindedness.

How often we find that the feeble-minded child is the offspring of highly cultured and educated parents. It is as though Nature wished to impress us with the fact that the parents cannot continue to violate their nervous systems, without robbing the offspring of its birthright.

*Diagnosis.*—The question will at once arise,

how may we detect a mental abnormality in an infant? The mother, with her characteristic kindness is blind to the fact that there is something wrong with her little one, and it becomes the unpleasant duty of the medical attendant to acquaint her with it. Then for early recognition, it requires that he be well informed as to the diagnostic points.

These can be readily grouped under four heads:

1. Defects of form and development.
2. Abnormalities of the cranium.
3. Neurotic abnormalities.
4. Defects in the nutrition.

Signs of imperfect physical development are almost invariably associated with mental defect. Therefore, we should be on the watch for such deformities as harelip, cleft palate, arched palate, supernumerary auricles, misshapen and defective ear lobes, indented nose (naevi), and in fact, all defects that will act as a clue when properly understood. The presence of any of these does not imply mental deficiency, but their presence should lead us to a thorough investigation of the mental condition. In other words, they should always arouse our suspicions.

Perhaps the most prominent of the abnormalities of the cranium will be microcephalous. Measurement is an aid to a diagnosis, but never a certainty; the greater stress should be placed upon shape, and not size. Quality is here a greater factor than quantity, and a well developed, broad forehead, even in a head below the average in measurement, augurs well for the mental calibre of the child.

Measurement bears the same relation as physical stigmata, it is suspicious.

Hydrocephalous, whether congenital or non-congenital, allows of a remarkable mental development, when we consider the condition present. It is rarely overlooked, for it is usually congenital, and giving rise to difficult labor, brings itself into prominence.

The so-called Mongol type shows at once in the physiognomy, and not alone there, but in the form of the cranium, and it is easily recognized early in life.

Spontaneous muscular activity, though with movements minute in character, incessant in waking hours, is a characteristic of healthy infant life.

If these are absent we find an associated dullness of expression and diminished reflexes. If excessive there may be mystagmus, overmobility,

muscle twithing, or a general tremor. Both conditions predicate mental deficiency. Later we look for irregularities of sight, hearing or touch, and still later of speech.

Persistent derangements of nutrition, despite careful feeding, lead us to suspect what might be called a congenital state of malnutrition. This state being present, we recognize a defect of original constitution, and this is frequently associated with mental deficiencies.

What is to be done with the feeble-minded child—the child who has not the mental qualifications to derive advantage from the usual educational methods?

Is he to be less considered than that helpless, speechless burden, the idiot?

The mentally enfeebled child should not be set aside as a burden, or one whose early demise is a desirable thing. The term well defines the condition and the feeble mind requires special educational advantages and methods, just as the feeble body demands special training and care. Unfortunately our educators are not fully alive to this phase of their work. While we observe a strenuous campaign for higher education, there appears to be an absolute disregard for the value and possibilities of the properly educated mentally enfeebled child.

Such a boy or girl, born in this great city, of parents of moderate means, and with prevailing conditions, has little or nothing to look forward to but to be the guy of its companions, and if spared to maturer years, to become a moral degenerate and a charge upon the State.

It is a well recognized fact that a mentally enfeebled child, not properly trained and educated, lapses rapidly into a state of moral weakness, which shows itself especially at the time of puberty. Children in mind, they are giants in wickedness and vice.

One of the best evidences of the value of this neglected branch of our educational system is found in Germany. Germany, that slow moving, practical country, which must see the utility of a measure before it gives itself wholly to it. In 1867, at Dresden, was established a class for the mentally feeble; others followed in time; within thirty years the value of the measure had been so clearly demonstrated that there were 20,000 children under this special instruction.

Twenty thousand irresponsible criminals saved to the State; a good result; but what if physical training had been incorporated along with the mental, as it always should be. The results would have been even better.

The problem is a big one, and it is easy for us to fall into the rut that has been made so wide and deep for us, and by a policy of disinterestedness fail to do our share in rousing the powers that be to proper action.

The American physician has handled larger problems (I only need to recall to mind the campaign of education and restraint in tuberculosis) and with a proper appreciation of the value of special education, added to a kindly sympathy for the one bereft of his power of reasoning like his fellows, will come such an aroused sentiment as shall compel those whose duty it is to make adequate provision for the mental, physical and moral salvation of the mentally enfeebled child.

#### NOTES ON ARTIFICIAL FEEDING OF INFANTS.

BY ARCHIBALD D. SMITH, M.D.

Department of Children, Bushwick and East Brooklyn Dispensary; Assistant Attending Physician, Children's Diseases, Bellevue Hospital, O. P. D.

*Materials.*—There are four materials that have a very similar composition to mother's milk: mare's milk, cow's milk, ass's milk and goat's milk. In France the experiments with feeding ass's milk have not been successful. In this country, cow's milk is selected because the ease of obtaining it makes it the only milk available for general use. The following remarks, therefore, apply only to cow's milk.

*Composition.*—The following from Holt<sup>1</sup> shows well the differences between human milk and cow's milk:

| Reaction                    | Human Milk<br>Alkaline or<br>Amphoteric | Cow's Milk<br>Amphoteric or<br>Slightly Acid |
|-----------------------------|---|--|
| Specific Gravity.....       | 1026-1036                               | 1028-1033                                    |
| Water.....                  | 87.30                                   | 87.25  |
| Fat.....                    | 4.                                      | 4.   |
| Milk sugar.....             | 7.                                      | 4.50   |
| Total proteids (average)... | 1.50                                    | 3.50   |
| Lactalbumin (Koenig)....    | 1.26                                    | .53  |
| Casein.....                 | 1.03                                    | 3.02   |
| Salts.....                  | .2                                      | .75  |
| Lime salts.....             | .03                                     | .19  |
|                             | Ferments<br>sterile                     | Ferments<br>bacteria                         |

According to Hammarsten, cow's milk is deficient in lecithin, which has to do with the nutrition of the nervous system.

*Reaction.*—For practical purposes we can still regard human milk as alkaline or amphoteric, and cow's milk as amphoteric or slightly acid. But it must be remembered that with the more delicate tests now applied, human milk is really amphoteric or slightly acid. On this point Chapin<sup>2</sup> says: "It was formerly taught that one of the fundamental differences between human milk and

cow's milk was that human milk was alkaline and cow's milk acid in reaction. With modern methods of testing alkalies and acids this difference disappears, and it can be readily demonstrated that breast milk will take considerable quantities of lime water before it is alkaline."

The two substances used for rendering cow's milk alkaline are lime water and sodium bicarbonate. Lime water should be used in the proportion of one ounce to twenty ounces of food. When the milk is to be heated, do not add the lime water until after heating to prevent precipitation of the lime salts. Sodium bicarbonate should be added to the food in the proportion of one to three grains per ounce of food. By the use of sodium bicarbonate there is a combination with lactic acid, if present, forming sodium lactate, which acts as a purgative, aggravating the very condition we are often seeking to relieve.<sup>3</sup>

*Fat.*—Although it is not commonly treated as of much importance, it is well to recognize that the fat of human milk differs materially from the fat of cow's milk, the former being much more easily digestible. There is also a variation in the fat of the milk from the different breeds of cows. Thus Rotch<sup>4</sup> says: "The fats in the milk of the Holstein, Ayrshire, Durham and Devon are more easily digestible and more in accordance with those of human milk than the fats of the Jerseys and Guernseys. The milk of the Holstein has a much larger proportion of stable fats, olein, stearin and margarin than that of the Jersey, which contains a much larger proportion of volatile glycerides. These volatile glycerides do not exist in the mamma, but are formed in milk soon after milking. In the modification of the milk of the Holstein the emulsion is much more easily restored, is more permanent, and is not so likely to produce oil-drops on the surface of the milk."

Recently Holt<sup>12</sup> has called attention to the disturbances of digestion resulting from the use of too high fat percentages. The symptoms produced were convulsions, tetany, laryngismus stridulus, constipation, moderate rickets, gastric catarrh, eczema and habitual vomiting. The milk used in four out of five cases was Briarcliff milk. Upon analysis the food was found to contain from 5% to 7% fat as modified and fed to the baby. The gain in weight was rapid and unusual until the acute upset came.

*Sugar.*—The sugars used in modifying cow's milk are granulated cane sugar, milk sugar, and levulose, a fruit sugar. Those who advocate cane sugar hold with Jacobi the view that cane sugar is not so easily transformed into lactic acid

as milk sugar, citing as proof of this the fact that condensed milk remains unchanged for a long time on account of the plentiful addition of cane sugar, in spite of the original presence of milk sugar. Those who advocate milk sugar hold with Holt that it is more rational to use milk sugar than cane sugar, since by using milk sugar we are adding what exists in human milk. There are some even who deny that the milk sugar in cow's milk and human milk are the same. To illustrate this, Von Giesen<sup>8</sup> says: "I am not prepared to believe as yet that cow lactose and human lactose are identical in composition or effect." Most authorities do not agree with this. Milk sugar<sup>8</sup> or lactose is more digestible than fat, but does not have so much heat-producing power in a given weight, its potential energy to the fat being only 1 to 2.4. Levulose has not been used enough to recommend its use, though it is possible the future may show its value. Von Giesen<sup>8</sup> says on this point: "Pure levulose, being a very easily assimilable fruit sugar, promises to give satisfactory results. Its expense at the present time would prevent its general use."

*Proteids.*—By looking at the table given above we can easily see why the proteids of cow's milk give more trouble to the digestion of the infant than any other ingredient. In human milk there is more lactalbumin than there is casein. In cow's milk there is less lactalbumin than in human milk and a great deal more casein. Caille<sup>6</sup> holds that "minute differences in the composition of the proteids of cow's milk as compared to human milk have a theoretical but no practical interest. We cannot convert cow's milk into human milk, but with proper hygienic management, clean cow's milk, properly diluted or modified, will fit the vast majority of infants." According to Chapin<sup>2</sup>, we can no longer be satisfied with the separation of the nitrogenous bodies of milk into casein and albumin, but now that we know how, it is a simple matter to separate from milk casein, albumin, albumoses and peptones, all nitrogenous bodies.

*Bacteriology.*—Park and Holt<sup>7</sup> have given us a contribution to the study of the bacteriology of milk. "Bacterial counts were made once or twice a week from the milk as given to each child, specimens being taken from raw and heated milk. Two hundred and thirty-nine varieties of bacteria were isolated and studied, and showed the sources were outside the udder and milk ducts." Before milk reaches the curdling point bacteria have usually reached over a billion to each cc. Intraperitoneal injections of 40% of the varieties

caused death. One hundred and thirty-nine varieties were fed to kittens two to ten days old. Only one culture produced death or illness. The following kinds of milk were used: (1) Condensed milk, (2) store milk, (3) bottled milk, (4) milk from the Strauss depots and Good Samaritan Dispensary. (2) Store milk showed 4,000,000 to 200,000,000 bacteria to the cc., with an average of 20,000,000 to the cc. Heating killed 95-99%. (3) Bottled milk averaged 500,000 to the cc. (4) Milk from the Strauss depots and Good Samaritan Dispensary averaged before pasteurization 2,000,000 to cc. After pasteurization, 500 to cc. After boiling, 5 to cc.

In the winter 96% of the babies fed on store milk, the worst kind, did well, and 4% badly. Of the breast-fed babies in winter 89% did well and 11% badly. In the summer time 56% of the babies fed on store milk did well and 44% badly. Of the breast-fed babies 78% did well and 22% badly. "To what shall we ascribe the great difference between summer and winter results? There seem to be many factors, but a consideration of the facts accumulated will show that heat and humidity play the most important part, and bacteria and their products a minor one, except when contamination is extreme or specific pathogenic micro-organisms are present."

The following table illustrates the difference in results obtained by feeding pasteurized and raw milk, and is taken from Park and Holt's article:

| Kind of milk   | No. of infants | Average no. days off milk during summer | Weekly average gain in weight | Average no. days diarrhoea | Deaths |
|--|----------------|---|-------------------------------|----------------------------|--------|
| Pasteurized milk }<br>1,000 to 50,000 bacteria to cc.) | 41             | 3                                       | 4 oz.                         | 3.9                        | 1      |
| Raw milk, 1,200,000 to 20,000,000 bacteria to cc. }    | 51             | 5.5                                     | 3.5 oz.                       | 11.9                       | 2      |

The following interesting figures show the results obtained with artificial feeding at different seasons and at different ages.<sup>7</sup>

| SUMMER.          |          |             |       |      |
|------------------|----------|-------------|-------|------|
|                  | Did well | Fairly well | Badly | Died |
| Under 6 mos....  | 52%      | 16%         | 19%   | 13%  |
| From 7-12 mos..  | 34%      | 32%         | 26%   | 8%   |
| Over 12 mos..... | 49%      | 32%         | 19%   | 0    |
| WINTER.          |          |             |       |      |
|                  | Did well | Fairly well | Badly | Died |
| Under 6 mos....  | 74%      | 21%         | 0     | 5%   |
| From 7-12 mos..  | 70%      | 20%         | 10%   | 0    |

**Digestion.**—Dr. Henry Shaw,<sup>8</sup> of Albany, has found: "That the saliva of young infants contains a diastatic enzyme capable of converting small amounts of starch into maltose; that the diastatic action of saliva may continue in the stomach as long as two hours after feeding."

In the early stages of lactation the secretion of the stomach is the rennet ferment, which changes the casein of milk into a soft, solid mass or curd which is not digestible by pepsin; the character of this mass or curd differs with the kind of milk. With human milk the curd is a very soft, flocculent one. With cow's milk the curd is much firmer and more tenacious than that of mother's milk. When the stomach secretes hydrochloric acid it combines with the curd and forms chloride of paracasein, a compound much denser than rennet curd or paracasein. This compound of curd and acid is readily digested by pepsin, and then, and not till then, will pepsin attack the paracasein. We owe this knowledge to Van Slyke.<sup>8</sup>

The difference in the digestibility of human milk and cow's milk is well shown by the examination of the stomach contents. The contents of a nursing infant's stomach one-half hour after a moderate meal are almost completely fluid and susceptible of filtration. The contents of the stomach three-quarters of an hour after a meal of cow's milk show casein clots still undigested.<sup>8</sup>

**Intervals and Amount.**—Although the majority of pediatricists are in favor of feeding the baby at regular intervals, it is well to remember there are some who advocate irregular intervals. The best argument in favor of this is by English.<sup>9</sup> He says: "At the end of the third or beginning of the fourth day suitable food is begun, and my instructions then are to give the baby all it will take of this food at each feeding; not to let it fall asleep too soon, but to keep it awake and feeding as long as possible, in fact until it "runs over." After that the baby is not to be fed again until absolutely necessary. In the intervals between feedings give it water, and so try to keep it contented for a time, and make the interval as long as possible. The baby should always be allowed to cry and fret some before the next feeding; not long enough to get it into a state of hysterical nervousness, but long enough to prepare the stomach and nervous system for the next meal, to give them warning as it were. The intervals will not, and should not be of equal length. When the right time comes, fill the baby full again as before, and so on. This is what I mean by natural feeding, and differs from scientific feeding in the length and irregularity of the intervals, and in the amount given at each feeding. This is the way in which a puppy or kitten is fed, either of these animals eating enough at each feeding to make the abdomen round and tense, and both being forced to cry and worry for a



time before being allowed to feed again. This complete filling of the stomach develops it and makes it strong. The interval allows time for the complete emptying of the stomach, for the firm contraction that prevents dilatation, and for the creating of an appetite that prepares the stomach for the next meal and draws out the digestive juices. The natural method of feeding applies as well to breast-nursing as to bottle feeding. It simplifies very much the question of the quality of the baby's food, for under this plan of feeding, a stomach is developed that will digest food that will cause indigestion in a baby that has been scientifically fed."

*Pasteurization, sterilization, etc.*—In regard to the more subtle processes which take place during sterilization we have no definite knowledge. Welch says in his Huxley lecture: "The infant comes into the world with its immunizing bodies; the anti-bodies are smaller in amount and less energetic than those possessed by adults. It is an important function of the mother to transfer to the suckling through the milk the immunizing bodies, and the infant's stomach has the capacity which is afterwards lost of absorbing these bodies in the active state. The relative richness of the suckling's blood in protective anti-bodies explains the greater freedom of the former from infectious disease." Anent this point Sowder<sup>3</sup> says: "We have reason to believe that so simple a process as sterilization will modify milk to such an extent as to destroy any power which it has in this direction. Raw milk, in addition to fat globules, contains living nucleated cells which retain their vitality for some hours. These enter the circulation, as does the serum globulin, without digestion."

Dr. Brüning,<sup>10</sup> of Leipzig, has recorded an interesting series of researches showing the growth of young goats fed with sterilized milk according to rules for infant feeding. The various particulars are tabulated and compared with the growth of normal suckling kids. The results confirm the theoretical views in regard to the incomparable superiority of the mother's milk for the growth of the young.

In addition to the above, Spolverini<sup>11</sup> asserts that the following ferments are found in milk:

Trypsin ferment, which is very active in the milk of cows, goats, dogs; less active in woman's and ass's milk.

2. Pepsin ferment also present, but less active than the former.

3. Amylolytic. This is never found in cow's

or goat's milk. Occasionally present in ass's milk and is always found in woman's and dog's milk, where it is highly active.

4. Hydrating ferment, which transforms salol into carbolic and salicylic acid, is always present in woman's and dog's milk. It is not found in cow's or goat's milk.

5. Fat splitting ferment, lipase, present in all milks examined.

6. Glycolytic ferment. Found in all animals.

In cow's milk, therefore, we have the trypsin ferment, the pepsin ferment, the lipase and the glycolytic ferment.

He says further: "Milk must be considered not as a simple mixture of nutritious chemical substances, but as a liquid containing as well active bio-chemical elements."

As we know that trypsin, pepsin, etc., in watery solutions are destroyed by boiling, is it not possible that we have here a further injury to the milk by sterilization?

Notwithstanding these facts, in hot weather and with the average food supply the milk must be pasteurized at least.

155° F. is sufficiently high according to Rotch<sup>4</sup> to kill practically all pathological germs found in milk without coagulating lactalbumin. It destroys also the rennin enzyme. Caramel is formed when heated to a temperature such as 212° F.; the mixture is liable to become brown, seemingly from the action of heat, milk sugar and lime water in producing caramel.

*Cereals.*—The physician should not only decide in a given case whether to give a cereal, but should also know the strength of the cereal he is giving so that the especial infant may receive the percentage of starch which is best fitted for it, as it does the percentage of fat, sugar and proteid.<sup>4</sup> By using one tablespoon of barley flour to twelve ounces of water we get for the composition of such barley water: Fat, .05%; proteid, .09%; salts, .03%; water, 98.2%; starch, 1.63%. If fourteen ounces of a 1.63% solution of barley water is used in a twenty-ounce mixture, the percentage of starch in the mixture is

$$\frac{14 \times 1.63}{20} = \frac{22.8}{20} = 1.14\%.$$

Dr. White,<sup>5</sup> at the suggestion of Dr. Rotch, experimented with dilutions, and concludes: "That cereal decoctions, due mainly to starch, render the casein much more fine, soft, and digestible than diluting with water. Diastase, by converting starch to dextrine and maltose, promptly lessens and removes the action of cereal water upon casein. Albumin water has no prac-

tical value as a dilutent. Lime water added to milk has no more effect than water upon the character of the curd."

**Milk Depots.**—In France<sup>11</sup> milk depots for supplying milk, modified to suit the needs of the infant, are mainly carried on under private medical supervision; in Great Britain the few that have been established are worked by the municipal authorities and are under the control of the medical health officer. In the British depots the milk is supplied by a contractor under very strict conditions as to quality and purity. At the depot it is modified and sterilized, and sold in stoppered bottles, each bottle containing enough for one feeding. The following table shows the average death-rate among depot fed children and others:

|                      | <i>Not depot fed.</i> | <i>Depot fed.</i> |
|----------------------|-----------------------|-------------------|
| Liverpool . . . . .  | 167.3 per 1,000.      | .78 per 1,000     |
| Battersea . . . . .  | 143 per 1,000.        | .98.9 per 1,000   |
| St. Helens . . . . . | 172.2 per 1,000.      | .98.2 per 1,000   |

In this country the milk depots are carried on under private supervision. As an illustration may be taken the milk distributed by Nathan Strauss and the Good Samaritan dispensary in New York, and in Brooklyn by the Children's Aid Society. The latter distributed during the summer of 1904, 154,506 bottles of modified and sterilized milk.

**Methods of Modification.**—To be useful a method for artificial feeding must have: 1. Accuracy. 2. Flexibility. 3. Simplicity. 4. The substitute must have the same constituents as woman's milk: fats, proteids, sugar, salts and water. 5. The different constituents must resemble the ideal food, woman's milk, as closely as possible both chemically and in their behavior toward the digestive fluids. Although the methods of modification are many, Holt's method fulfills all these conditions better than any other. The details of the method it is not necessary to enter into here as they can readily be obtained from his text-book. The lack of space forbids the description of many other methods which have some value both in normal and abnormal conditions.

53 Jefferson Avenue.

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## THE MEDICAL SOCIETY OF THE COUNTY OF KINGS.

STATED MEETING, JUNE 20, 1905.

The President, J. W. FLEMING, M.D., in the Chair.

There were about 125 members present.

The meeting was called to order and the minutes of the previous meeting read and approved.

#### REPORT OF COUNCIL.

The following candidates for membership have been accepted by the Council:

Paul Kavanaugh, 136 South Ninth St.

J. Cortelyou Rushmore, 470 Washington Ave.

#### APPLICATIONS FOR MEMBERSHIP.

Applications have been received from the following:

Edwin M. Beery, 313 Lafayette Avenue, Bellevue, 1897.

Proposed by Wm. Pfeiffer, seconded by O. A. Gordon.

Edward Eberle, Kingston Ave. Hosp., Kentucky School Med., 1898.

Proposed by Wm. Pfeiffer, seconded by O. A. Gordon.

Robert L. Morehead, German Hospital, P. & S., N. Y., 1904.

Proposed by W. H. Rankin, seconded by Membership Committee.

Albert J. Toering, 411 Grove Street, P. & S., N. Y., 1900.

Proposed by R. S. Fowler, seconded by G. R. Fowler.

Charles E. Wuest, 1024 Bushwick Ave., P. & S., N. Y., 1886.

Proposed by J. P. Warbasse, seconded by L. S. Pilcher.

#### ELECTION OF MEMBERS.

The following having been duly proposed and accepted by the Council were declared by the President elected to active membership:

W. W. Colby, 717 Halsey St.

P. G. Taddiken, L. I. State Hosp., Kings Park, L. I.

#### DECEASED MEMBER.

The Chairman of the Historical Committee reported the death of Maud Miller, Woman's Medical College, New York, 1899, member 1901 to date of death, May 22, 1905.

## SCIENTIFIC PROGRAM.

## GALL BLADDER SYMPOSIUM.

1. Anatomy of the Gall Bladder. By William F. Campbell, M.D.
2. Pathology of Biliary Calculus. By Joshua M. Van Cott, M.D.
3. Diagnosis and Medical Treatment of Cholelithiasis and Gall Bladder Disease. By Glentworth R. Butler, M.D.
4. Surgery of the Gall Bladder. By Algernon T. Bristow, M.D.

Discussed by Drs. Fairbairn, Webster, Fuhs, Wight and Westbrook.

Adjourned.

JOHN A. LEE,  
*Secretary.*

## THE BROOKLYN SURGICAL SOCIETY.

REGULAR MEETING, MARCH 2, 1905.

The President, W. B. BRINSMADE, M.D., in the chair.

## FLOATING KIDNEY.

DR. R. S. FOWLER presented a strong, vigorous man whom he had operated on for floating kidney. The man, he said, was one who had very laborious work, who drove a truck and handled large quantities of sugar in bags and barrels. This man for three years before being operated on, had symptoms of stomach disturbance, a dragging pain on the right side, and could only work intermittently. Six months ago Dr. Fowler anchored the kidney by passing two rows of silk sutures through the capsule and brought the sutures out between the lower ribs. Besides that, a slip was taken from the lumbar muscles and passed under the lower pole of the kidney, and sutured across to support it. In addition to that, as the man was in the habit of lifting weights up to 100 pounds, the operator packed gauze beneath the kidney—the old operation for supporting the kidney. The course of healing took eight weeks, six weeks of which time the patient was on his back.

Since then he has gone back to his occupation of truck driving and is now handling these heavy articles of merchandise—on an average of 15 to 17 tons each day. The speaker had examined him a few weeks ago, and found the kidney in good place; and he is free from the stomach disturbances and the dragging pains. The particular point in this case is that the man is able to do this heavy, laborious work without any disturb-

ance of the position of the kidney, and the symptoms which existed three years before the operation have been completely cured.

*Discussion.*

DR. M. FIGUEIRA said that the operation Dr. Fowler performed in this case brought to his mind the old McBurney operation for hernia. McBurney used to make his wound unite by granulation, with the idea that the larger amount of connective tissue formed there would give greater protection than when the wound was united by first intention; but as pointed out long ago, it was found that the connective tissue after a while was absorbed, the cicatricial tissue was subjected to changes, and the hernia returned. So in this case of Dr. Fowler's, all this fixing and all these granulations would not avail as much as if the wound had been united by first intention.

DR. J. P. WARBASSE thought this case of Dr. Fowler's was interesting because it occurred in a man who is engaged in heavy, laborious work, something rather unusual for these floating kidney cases. We usually find them in relaxed people who are not occupied in manual labor, particularly women with flabby flesh.

From Dr. Fowler's description of his operation it seemed to Dr. Warbasse that he must have gotten the kidney pretty firmly fixed in place, and while he agreed with Dr. Figueira he was inclined to think that Dr. Fowler's accessory procedure of bringing underneath the lower pole of the kidney slips from the lumbar muscles was one of the most important features in his operation. However, it was the speaker's belief that we do the best for these cases in securing primary union, and close adhesion of the kidney to the lumbar denuded surface. He was thoroughly convinced that the best operation for any of these cases pays particular attention to the removal of the perirenal fat,—thoroughly removing this fat over a segment of one-half of all of the posterior and lateral parts where it is in contact with the kidney. The kidney surface should then be denuded by the classical operation of reflecting back the capsule and bringing the raw kidney surface against the clean muscle and suturing it there with chromic gut. If the fat is removed we secure a primary union of the kidney to the lumbar muscles and fascia without the interposition of much connective tissue, and secure an immediate communication of the circulation. In his own experience he had been so well satisfied with the operation that he believed there is none better than this simple procedure.

DR. R. S. FOWLER believed there was some advantage in leaving a mass of packing under a kidney of this kind. It supports the kidney for the first few weeks while the adhesions, which hold it later, are taking place. He said he neglected to state in describing the operation that he removed the fatty capsule of the kidney before introducing the sutures and fixing the kidney in place.

#### OPERATION FOR CIRRHOSIS OF LIVER.

DR. R. S. FOWLER presented a man whom he had operated on, August 24, for cirrhosis of the liver. This patient, 56 years of age, gave a history as follows: Moderately alcoholic; denies specific history; jaundice in 1864; no illness since until one year ago. At that time he had chills and some fever, which was called malaria. This grew worse until May 1st, when the abdomen began to swell. The feet became swollen afterward. Examination of the liver showed it to be small, and the spleen slightly enlarged. He was admitted to the hospital about August 1st, with an enormously distended abdomen filled with fluid. This was aspirated, but in a week the abdomen filled up, and the fluid was again drawn off. This was done three times, and each time the fluid rapidly accumulated. A median laparotomy was performed. There was a very large amount of serous fluid in the abdominal cavity, the spleen was somewhat enlarged, the liver was a little smaller than normal. The surface of the liver was scarified by roughly rubbing it with a piece of gauze, the round ligament was shortened, and the peritoneum overlying the liver scarified. By shortening the round ligament the operator hoped to bring the liver more intimately into attachment with the peritoneum and produce adhesions. The edges of the liver were sutured with chromic gut to the diaphragm. The spleen was sacrificed to some extent. The omentum was sutured to the abdominal wall. With this large incision he was able to reach every portion of the abdomen. The intestines were handled considerably in order to produce adhesions. The abdominal cavity was thoroughly dried with sponges and the incision closed.

During the first week after operation there was some return of the ascitic fluid, but this was absorbed during the third week. The patient had a hypostatic pneumonia during the second week, from which he recovered very promptly. Since the patient left the hospital his diet has consisted of everything except meat, fish and fowl, which have been prohibited. The scar has two weak

points, one half-way between the umbilicus and the ensiform cartilage, and the other at the neighborhood of the umbilicus. At the time the speaker first saw the patient he was very emaciated. He is now in fairly good health.

#### APPENDICITIS IN INFANCY, COMPLICATING INGUINAL HERNIA.

DR. J. P. WARBASSE reported a case of a delicate child six months old, operated upon by him at the German Hospital for strangulated inguinal hernia on the right side. The sac contained the cæcum and appendix. The latter was the seat of an acute appendicitis, and was surrounded by purulent serum and plastic lymph. The appendix was removed and the hernia cured. The child died of pneumonia on the second day.

#### Discussion.

DR. M. FIGUEIRA said he thought when the contents of a hernia are strangulated, all the structures involved, whether the appendix, the cæcum or any other part of the gut are all inflamed, and the fact that the appendix is inflamed in a strangulated hernia, it seemed to him did not warrant our calling it an appendicitis. He believed we might as well say it was a case of hernia with colitis or enteritis. He thought it is straining a point to call it a rare case of appendicitis in a hernia.

DR. WARBASSE said when an appendix vermiformis is the seat of an inflammation and is surrounded by plastic lymph and exudate and has undergone the peculiar changes which characterize an inflammation, that that constitutes appendicitis; therefore, this was a case of appendicitis.

#### OVARY GRAFTING.

DR. J. P. WARBASSE reported a case of a young woman who had suffered the removal of both ovaries, and, as a result, was required to take ovarian extract to control the profound nervous disturbances incident to the absence of the internal secretion of these organs. He implanted an ovary from another woman into the broad ligament of his patient. She was relieved of her symptoms for about a year, at the end of which time the suffering recurred.

He thought in all probability that the implanted ovarian tissue functionated and supplied her with a sufficient amount of ovarian internal secretion to keep her nervous poise. Now that the ovary has begun to degenerate she is again suffering from the absence of ovarian secretion. Whether or not such an operation is worth while he was not sure.

### Discussion.

DR. M. FIGUEIRA thought Dr. Warbasse's case was very interesting. At the same time, if he were to do the operation he would doubt very much the feasibility of putting a degenerated ovary in the abdomen of a poor woman who was so badly off without it.

The relief that was given to Dr. Warbasse's patient by the operation, he doubted very much if it was due to the functioning of the ovarian tissue transplanted. We must stop and think, he said, that these small glands are supplied with blood by the ovarian arteries, and we know that the changes in the glandular tissue are due to the proper carrying on of the circulation such as cannot take place in a graft poorly supplied with blood.

In many of these neurasthenic cases, the operation itself will relieve the neurasthenic symptoms for a while. In this case the speaker thought the operation *per se* gave more relief than any influence the ovarian tissue might have had.

DR. R. W. WESTBROOK inquired whether the ovarian extract which was used with apparent good effect previous to her operation had also been tried since the supposed good effect of the operation had passed off. It seemed to him that in drawing conclusions it would be valuable to know whether it retained its apparent good effect as at first.

DR. J. R. KEVIN said it occurred to him that perhaps the question might be asked, would she not have had these neurasthenic symptoms, even though she had not had both ovaries removed at all. He had in mind two cases which came under his observation, one particularly, a colored woman, a hysterectomy, in which case he removed both ovaries five or six years ago. He had seen the patient periodically since, with a view of keeping an eye on her, in order to find out the results of the removal of both ovaries. This patient was a good subject to draw conclusions from; she is not a pessimist, nor is her life one of the activity of the typical American, nor are her environments those that would produce the neurasthenia we see to-day. His conclusions in her case led him to believe that the removal of the ovaries are not very frequently followed by neurasthenia and did not lessen the sexual appetite. The question arises, he said, in Dr. Warbasse's case whether the patient's environments and method of life were not sufficient to produce a neurasthenic condition with or without an operation.

DR. J. S. WIGHT said that neurasthenics are susceptible to suggestion is generally conceded, and he would like to know if Dr. Warbasse suggested to his patient that she would improve after the operation. He would like to ask him also what he meant by the internal secretion of the ovary; was it some special function of the ovary, or did it arise from the metabolism of its cellular elements as in other internal secretions. He confessed he would always be sceptical of the results of that operation until someone reopened the abdomen at some remote time and found that ovary in place, not fibrous tissue, and that evidence, he added, is still lacking.

DR. L. W. PEARSON said it struck him that the case had been somewhat unfairly criticized by the gentlemen who believed that the transplanted ovary was not able to carry on its functions afterwards. The new ovary implanted in that manner can very quickly generate a new circulation, he said. Ovarian cysts have been found in which the pedicle was twisted so that the circulation was completely cut off, and yet in three days' time new blood-vessels had formed between the adjacent peritoneal surfaces and the periphery of the cyst—some of the new blood-vessels being very large. It seemed to him new blood-vessels sufficient to nourish the implanted ovary might form quickly enough to carry on the circulation, and the ovarian tissue being planted there and being supplied by blood, there did not seem to be any reason why it should not functionate in the person in whom it was implanted as in the woman from whom it was taken.

He said it is not any peculiar kind of blood that enables an ovary to generate its secretion—any blood will do—it is the function of the cells in the ovary that produces this fluid with its peculiar function.

The fact that Dr. Warbasse's case had relief for a year would lead us to infer it was the implanted ovary that did the good. We would hardly expect suggestion to last so long. Mental suggestion may bear an influence for a month or two, but not for a year.

The fact that the transplanted ovary was cystic had been referred to. What further changes there were he thought we were hardly able to say. We know that an ovary with a cyst is liable to further cystic changes. This ovary may have undergone further cystic degeneration, which caused it to cease to functionate. If a healthy ovary were taken from a healthy animal, a sheep for instance, it should grow there as well as human tissue. It looked to the speaker as though a

wide field for investigation had been opened up. The benefit which the patient had obtained for a year seemed to him to be very encouraging.

DR. R. S. FOWLER said that Dr. Robert Morris had gone into this subject very thoroughly. There were some experiments he made on rabbits, in which it was found the ovary would live and would remain in place for about nine months after it was put into the peritoneal cavity. He supposed the reason this patient's symptoms were somewhat alleviated for some months was due to the fact that the peritoneum did not have time to absorb or digest all the ovarian tissue that was transplanted.

DR. C. P. GILDERSLEEVE believed that the evidence showed that this woman improved, and that she improved for an appreciable length of time. The only question is, what caused it, and that is answered in one of two ways. It is either caused by the ovary beginning to functionate, or else by the moral support given the patient as a result of the operation. The improvement lasted a year, and that was longer in his opinion than it would have lasted had the improvement been the result of mere moral support. On the other hand, he thought it is fair to assume that this particular ovary at the end of a year would degenerate, and if that is true it accounts for the fact that the improvement ceased at that time, and it was his opinion that the weight of evidence in this case would show that the improvement was due to the return of the functional activity of the organ. He confessed that as Dr. Warbasse began to read his report, it flashed across his mind at once that the whole improvement must be moral support.

The effect of the removal of these organs from women, he thought, is dependent upon the nervous temperament of the particular subject. A fair comparison is the removal of the testicles, and we all know that in some subjects the removal of both testicles causes less mental and nervous disturbance than the presence of a moderate varicocele does in others. It is not unusual to see a line of neurasthenic symptoms in a patient with varicocele amounting to melancholia. He had a case in mind in which he removed both of the testicles for tubercular disease ten years ago, and the man is as mirthful as the average man to-day. He has gained thirty pounds in weight and has married since. The speaker thought that while one is taking away a functioning organ in the removal of the ovaries, and that they exert some effect upon the nervous system, still there are a large number of women where the effect it produces is insignificant, and the

same rule applies to the removal of the testicles.

DR. J. A. LEE said that about the most discouraging thing he came in contact with was to do a radical operation for the removal of diseased ovaries, secure anatomical and surgical results, and have the patients come back afterward with these menstrual crises—neurasthenic symptoms—which are almost absolutely beyond control. He had been rather more unfortunate than Dr. Kevin. He had a number of cases in which he was thoroughly discouraged at the results, so much so that it was with great reluctance that he felt like advising the removal of an ovary in a woman between the ages of 25 and 40. Possibly he had run across cases that are constitutionally neurasthenic. In his cases from an anatomical and surgical standpoint the operation had been a success, but it had been followed by a train of symptoms which were only in a lessened degree different from what they possessed before operation. If Dr. Warbasse by transplantation was going to relieve these conditions, or if anything could relieve them, it is going to be a great relief for a lot of suffering women.

DR. J. P. Warbasse concluded the discussion by saying that he was much interested by the discussion and somewhat surprised as well. The first proposition which he would present in connection with this case was, that suggestion had nothing to do with it. He should have made that point clearer. He held out to this woman little hope of relief. She knew that taking ovarian extract was the only thing which gave her immunity from her nervous symptoms; and he proposed to her this operation. He did not assure her that it would help her; he simply expressed the hope that it might. He was not particularly anxious to do it, but her condition was so deplorable that she consented. Her first period, the first month after the operation, as he stated, was not entirely free from these symptoms, and she required while in the hospital some bromide to give her relief; and, indeed, at that time she made the statement that she was sorry the operation had been done. Later, the next period and the subsequent periods for a year, found her completely relieved from the distressing symptoms she suffered from; and that, he thought, quite effectually disposed of the suggestion proposition.

That a transplanted gland is able to functionate and supply the system with its peculiar secretion is not a question for discussion; it is a thing which we know as the result of animal experimentation and surgery. He was surprised that any member in discussing this thing would say

to the Surgical Society that the source of the blood supply had anything to do with the case. It is not a matter of blood supply, for the transplanted organ, the transplanted tissue becomes attached and develops vital connections. What it furnishes the system is the secretion of its own vitalized cells, and that has nothing to do with the source and character of its blood supply. This has been demonstrated not only in the lower animals, but in the human animal as well.

The speaker also expressed himself as interested that he should be called upon to defend the internal secretion of organs. This, he said, is another thing which it was not necessary to discuss here. It is a well-known thing and constitutes one of the most important and interesting fields in glandular physiology. It is a vast field and now well advanced in its stage of development.

The speaker insisted that we should not allude to this woman's symptoms as neurasthenic; they approached somewhat the picture of neurasthenia, but they had little connection with neurasthenia. The symptoms which those people who have been deprived of the ovaries suffer from is a peculiar condition in itself, just as it is a peculiar condition which a patient suffers from who has been deprived of his thyroid or both testicles. The internal secretion in these organs is different in each case; and the symptoms incident to the deprivation of the system of these secretions are peculiar in each case.

As an example of what has been done in surgery in this line he might cite the thyroid. We know the profound disturbances which develop when a patient's thyroid degenerates or the whole thyroid is removed, and there are not a few cases in the literature of surgery in which the whole thyroid has been removed and a separate piece of thyroid implanted, and the thyroprivic symptoms have been relieved. These operations are well known, and are worked out rationally upon the basis of the internal secretion that is necessary. In this case, he thought, it is quite clear that this ovary supplied this woman with a sufficient amount of ovarian extract, or ovarian juice, or secretion—the peculiar secretion of the ovarian parenchymatous cells—to relieve her temporarily; and yet in the course of time this ovary has undergone degeneration and has failed to functionate.

Dr. Warbasse did not accept the proposition, that because this ovarian tissue was in contact with a cyst that that condemned the rest of the ovarian tissue. We all know that a single indi-

vidual cyst may develop in an ovary, which throughout the rest of its structure is healthy, unless it has sustained damage from the mechanical pressure of the cyst. One cyst sometimes may develop in an ovary, and no more. The cyst was small, and the ovarian tissue implanted in this case grossly presented the appearances of healthy ovarian tissue.

The life of tissues transplanted in this way has been experimentally demonstrated to be short. As Morris' experiments have shown, the life of transplanted tissue is about a year or nine months. From a biological point of view experiments have also shown that if tissue is removed from one species and transplanted into another, it fails still more rapidly. It is quite different from the same operation performed between two of the same species, showing that there is a vital relation, and that this tissue does take root and functionate for a certain period. The practicability of this operation Dr. Warbasse was inclined to doubt. This woman at the present time says she is sorry the operation was done, although it gave her a year's immunity. She is just about as badly off as she ever was, and she has had her pains for nothing.

#### CARCINOMA OF INTESTINE.

DR. J. M. CLAYLAND reported the case of a woman, 50 years old, who about a month ago called in her family physician complaining of pain in the lumbar region. The next day there was pain around to the front. The temperature was 100. She had nausea and vomiting. On the second day the pain was of a colicky nature, occupying the umbilical region, and as he could map out a mass in the region of the appendix, he made a diagnosis of appendicitis. Dr. Clayland saw her on the following Wednesday, when her temperature was 100, pulse 80; no rigidity of the muscles, and no distention of the abdomen. There was a mass as large as an egg in the region of the appendix. The following Sunday at five o'clock A. M., she had a chill with temperature 101 and nausea and vomiting. She was sent to St. Mary's Hospital, and the usual incision made, the appendix was normal, but a tumor was found in the wall of the cæcum about an inch above the appendix, of cancerous nature. The speaker took out that part of the wall which was involved, going about half an inch beyond the tumor and including the appendix, bringing the intestine together with Lembert sutures. At night she vomited stercoraceous material. It was evident there was an obstruction, so he cut the stitches.



allowing an artificial anus to be formed, since which time the patient has been perfectly well. As soon as the wound heals he intends to resect that portion of the intestine, probably using a Murphy button.

#### FIBROUS TUMOR OF THIGH, WITH CALCAREOUS DEGENERATION.

DR. J. M. CLAYLAND reported the case of a man who in the Franco-Prussian War had an injury of the thigh produced by an exploding shell. In addition he was hit in the head and rendered unconscious. A piece of shell went in below the knee, and he also received a glancing blow on the left thigh, at which point a few months after he developed a tumor about as large as a hazel nut, which has been gradually increasing, until it reached the size of a foetal head. Two days ago Dr. Clayland removed the tumor, which he exhibited. The tumor was of a fibrous nature and in some portions contained calcareous plates. He did not think it was malignant.

#### OPERATIONS FOR CLUB FEET.

DR. J. M. CLAYLAND said he spoke of the following cases of congenital club feet only to show the necessity for watching these cases:

John W., aged 7, admitted to Brooklyn Hospital suffering from double talipes-equino-varus. An operation was performed on the left foot, a subcutaneous division of the tendons of the tibialis posticus, flexor longus digitorum, flexor longus hallucis and the tendo Achilles. On the right foot a division of the flexor longus hallucis and the tendo Achilles. The feet were put up in good position and the patient left the hospital. He disappeared from view, and as most of these cases do that come back for observation, he relapsed. The second time this patient was brought to him Dr. Clayland excised the head of the astragalus and brought the foot around in a correct position and the patient again was discharged.

The second case is similar. The patient had been treated by plaster of paris casts in the dispensary, and came into the hospital in 1903 when two years old. He had a tenotomy of the right tendo Achilles and on the left side a division of the tendo Achilles and the removal of the head of the astragalus. The feet were put in plaster and the patient discharged. He turned up again after a year in a relapsed condition. In addition to the club foot there was a decided bending of the leg itself. At this operation on the right foot an incision  $1\frac{1}{2}$  inches long was made along the course of the metatarsal bone with its center op-

posite the joint, the tendon of the adductor hallucis was severed, then an incision was made above and behind the malleolus and the tendo Achilles and the flexors of the toes and the tibialis posticus were cut. In addition to this the leg was broken by manual force, the foot and leg put up in plaster, the deformity being overcorrected. The left foot had a tenotomy of the adductor hallucis similar to that on the right side and the left leg broken. He was discharged with his feet and legs in good condition. He turned up again last month in the Brooklyn Hospital relapsed. The Doctor made an incision on the outer side of the foot and took out a wedge-shaped piece of bone and again overcorrected the foot and the patient is in the hospital yet. The feet are in good shape.

These cases show the necessity of after treatment in cases of operation for club foot.

#### THE BROOKLYN PATHOLOGICAL SOCIETY.

HENRY G. WEBSTER, M.D., Editor.

#### 456th REGULAR MEETING, FEBRUARY 16, 1905.

The President, J. C. McEVITT, M.D., in the Chair.

#### REPORT OF CASE: PROLIFERATIVE PERITONITIS.

DR. J. C. McEVITT said that some two years ago there was sent to him for confirmation of diagnosis a woman who had been married two years. The cessation of the menses gave rise to a suspicion of pregnancy. The attending physician was not able to make out the objective symptoms of enlargement. She was supposedly at the seventh month of pregnancy. Dr. McEvitt was unable to make out any other symptoms than the enlargement of the abdomen, the absence of the menses and discoloration of the areolæ. After a thorough examination and keeping the patient under observation for some time he became convinced that the fluid was contained in a thin walled cyst, but finding that the flanks became distended when the woman was in a prone position, he was unable to determine whether it was a thin walled cyst or ascites. He could find no cause for the ascites. As time went on the distention became so great that it was deemed advisable to puncture, and a clear, serous fluid was removed. The suspicion of some malignant growth producing this serous exudate occurred to the doctor, but when the abdomen was flaccid he was unable to determine any neoplasm or enlargement. It was necessary to remove this fluid every

six weeks. This, of course, produced a certain amount of exhaustion and caused the woman to be confined to her room.

Notwithstanding the fact that he was unable to determine a neoplasm, it was thought advisable to open the abdominal cavity, which he did, and was unable to find any other pathological condition except a sodden peritoneum, probably one-tenth of an inch in thickness. He removed a portion of this. He folded the omentum upon itself, and failing to find any other pathological condition closed the abdominal cavity.

The Doctor referred to the fact that the exposure of the peritoneum in these ascitic conditions will sometimes produce a cure, and said that in this case whereas it was necessary to remove the abdominal fluid every six weeks for one year after the operation there was no return of the fluid in the abdominal cavity. She was able to attend to her household duties and took a trip abroad.

Some fourteen months after the operation an œdema of the lower extremities appeared which became general. A nephritis developed with granular casts. A remarkable condition was that the œdema extended into the cervical muscles. You could take any portion of the integument and form it into a globe, the œdema was so marked, and yet there was no return of this fluid in the abdominal cavity. She died sixteen months after the operation from exhaustion complicated by the nephritic condition and not by coma.

PAPER: OBSERVATIONS ON GUN SHOT INJURIES,  
WITH LANTERN SLIDE ILLUSTRATIONS.

BY DR. GEORGE R. FOWLER.

AN ABSTRACT FROM DR. FOWLER'S FORTHCOMING  
WORK ON SURGERY.

#### *Discussion.*

Dr. A. T. BRISTOW said that the discussion of a topic usually involved a difference of opinion, but in this case there could be no difference of opinion as to the postulates laid down by Dr. Fowler. Nevertheless he thought it might not be out of place to make a few remarks in regard to bullet wounds seen in civil practice. Very few of us have seen the bullet wounds sent by high power missiles. A few came under the Doctor's charge at the Long Island College Hospital during the Spanish War, and our experiences with the high power bullet wounds naturally are very limited. We do occasionally, he said, see a good many wounds inflicted by the revolver. In civil practice there are two chief classes of revolver

wounds, those inflicted by the small .22 calibre, and those by the .38 calibre.

Dr. BRISTOW added that bullet wounds in civil practice differ in this respect from those in military practice inflicted by the high power arm; that whereas in the high power missile a large bullet is a rarity; in civil practice a large bullet is the rule. The reader of the paper had practically already laid down for us the rules we should follow, which are briefly these: where a large bullet is doing no harm or occasioning no symptom, it is wise to let it alone. He thoroughly agreed with the Doctor as to the futility of probing for a bullet. This is particularly harmful in wounds of the abdomen. It is equally futile everywhere for the reason that the muscular planes when the patient comes to the examining table, occupy the same places to each other that they did when the injury was inflicted. The rule has been laid down that it is not wise to do a laparotomy for a gun shot wound of the abdomen inflicted by a high power arm. There are two reasons for this: one the fact that in military practice it is impossible to get the necessary subsequent care of the wounded man, the other that it is not possible to get the proper appliances and the proper surroundings for exploratory laparotomies in wounds of the abdomen.

Dr. BRISTOW doubted very much whether the fact, which has been stated, that these penetrating wounds of the abdomen passed through the abdomen, wounded the intestine, and nevertheless did no harm, was true. There were a number of cases of gun shot wounds of the abdomen reported in the Anglo-Boer War, in which the patients recovered without any untoward symptoms. That, he thought, is not a proof that the intestine was injured and yet the patient recovered without operation, but rather a proof of the fact that the modern high power bullet can penetrate the abdomen without injuring the intestine.

With regard to the same class of injuries in civil practice, he firmly believed that the proper method of treatment of all gun shot wounds of the abdomen is by exploration, and by that he did not mean exploring with the finger or probe; the only way to explore is with the knife.

As to the point of incision, that should be governed, it seemed to him, by the point of injury. He should, for instance, be unwilling to make a median laparotomy for a wound in the flank. He believed a wound near the center of the abdomen should always be explored by a median incision, because in that way we should not only gain access to the wounded tract itself, but we are in a

better position to deal with any injury to the intestines which we may meet.

It makes little difference as to whether the calibre of the ball is .38 or .22. He had seen a number of wounds of the abdomen with the .22 calibre, which is the usual cartridge used, where there has simply been a wound of the abdominal wall penetrating sufficiently to enter the abdomen and yet without producing any injury of the intestine. He remembered one case in which he made an exploratory incision through the bullet wound, and found the little ball lying on the omentum, which it had not injured.

As to the time of exploration, the Doctor said if you are going to explore at all a gun shot wound of the abdomen, the proper time is just as soon as the patient is ready for it. There are cases in which the patient comes in almost exsanguinated with hemorrhage, as in a case some weeks ago, in which he transfused, and gave the patient time to rally from the shock, as otherwise he believed the action of an anesthetic would be fatal. The longer you delay interfering in a case, the more blood, the more extravasation you are liable to get and the greater the danger of infection, so that gunshot wounds of the abdomen should be investigated at once, and should be investigated with the knife and not with the probe, and due attention paid to whatever conditions we may then find.

With regard to gunshot wounds of the chest, as a rule he believed they are best left alone, particularly a gunshot wound of the lung. The blood in the pleural cavity produces enough pressure to stop the hemorrhage. There was a case reported in which enough gauze was stuffed in the pleural cavity to stop the hemorrhage, but he believed that to be bad practice.

In gunshot wounds involving the chest and abdomen, the Doctor believed the best results will be obtained by following the dictum of Sir Charles Bell: giving the patient a bed to lie on, put an antiseptic dressing on and leave him alone.

DR. W. F. CAMPBELL was interested in Dr. Fowler's paper, because the subject is a live topic in view of the recent events which have transpired between Russia and Japan, and in view of the additional fact that interest in gunshot wounds is going to be very much revived after we begin to get statistics from the surgeons who have been treating wounds in Manchuria.

The Doctor had an opportunity of seeing a number of these wounds in soldiers sent from Santiago to the Long Island College Hospital during the Spanish-American war, and saw the

results of some wounds which occurred at that time. In the first place, he said, we must recognize the fact that the wound as made by the present small arm projectile is different from that made by the old lead bullet. The old lead bullet was effective at 200 yards; the small present projectile will kill a man at  $2\frac{1}{2}$  miles. The old bullet was unprotected, and the present bullet consists of a lead core with a steel jacket, sometimes nickel plated. The calibre is about .30, and the wound in general which the bullet makes at the present time is a punctured rather than a lacerated one, and as a rule is not an infected wound, and, consequently, heals up rapidly.

Whether the accusation that the Russians used dum dum bullets or not is true, we do not know, of course, but it seemed to him that it is possible, that the wounds supposed to be made by the dum dum bullets were probably received by the soldiers in the explosive range. All writers on the subject recognize that a bullet in traversing its course goes through three zones: the first, the explosive zone, and the wounds received in the explosive zone are terrific (were a man hit in that zone his head would be blown into a number of fragments); and then the bullet goes through the second zone, and makes a punctured wound; and in the third zone it makes a lacerated wound. While the line of demarcation between these zones is entirely imaginary, yet the wounds received in each of these zones are characteristic; and whether the illustration is a good one or not, it seemed to him that the one given by Lydston of the spinning top, in illustrating these different zones, brings it clearly before our mind. He illustrates the projectile by a spinning top. In the first place, as the spinning top leaves the hand, it has a forward and rotary motion. When the spinning top reaches the floor it loses its forward motion, and it takes an additional one, namely, a revolving motion, and he illustrates that as showing how the explosive action of the bullet takes place; it not only rotates but revolves at the same time, and, consequently, large pieces of tissue are gouged out as the bullet goes through. Finally the spinning top reaches a point where it centers and spins for a time—that illustrates the second zone, and simply causes a punctured wound; and then as the top loses its force, it begins to wobble, and that illustrates the third zone in which the bullet goes, and in which zone we get the lacerated wounds.

Dr. Campbell thought that a large number of the wounds which we saw from the field of action in the Spanish war showed us that the modern

small arm is more humane than the old rifle used to be with the lead bullet, and it seemed to him that a majority of these wounds were rather punctured wounds than anything else. There was no foreign body, bits of clothing, etc., brought into the wound with the projectile, and as a consequence they saw many men who were shot through the lungs with the wound of entrance and of exit clearly shown healing up primarily.

Another point, too, was illustrated during the Spanish-American war, viz.: that the average wound differs according to the density of the tissue through which it passes. In passing through compact bone the splintering will be quite considerable; in passing through the epiphyses the splintering will be very insignificant. One case in which they operated to get the bullet out of the tissue, which was easily palpated just below the skin, the bullet had passed through the lower end of the femur, and after getting hold of the bullet he examined the hole in the bone and found it was simply a round tunnel corresponding to the calibre of a lead pencil. On the front in the bullet wound shot of the femur at the middle third, he found the splintering was considerable, a septic infection occurred, and it was necessary to amputate at the middle third of the thigh.

In the treatment, the Doctor said we have learned to leave these gunshot wounds alone. We may put this dictum down, viz.: if the bullet is not palpable and outside the abdominal cavity and giving no symptoms, we can leave it alone, and he thought the other dictum of Nussbaum (?) that the fact that a wounded man is in the hands of the person who does the first dressing is exceedingly valuable for us to remember.

DR. H. B. DELATOUR wished to recite a few experiences in connection with cases which came under his care at the Long Island College Hospital following the Spanish-American war. He wanted to emphasize what had been said by the previous gentlemen as to probing. It is common, he said, in the ordinary every-day pistol shot wounds we see in the hospitals for probes to be introduced. He thought if any of us will make an incision through the skin down to muscle and pass a probe, we will find it will very easily follow a tract, that being the plane between the muscular fibres, and men are frequently misled in thinking they are following a bullet tract, because the probe easily passes in a given direction.

The use of the X-ray in conjunction with bullet wounds is exceedingly useful in determining the presence of a bullet in the tissues. The location of that bullet is not always determined by a

single radiograph; a radiograph from two directions must be taken in order to properly locate the ball. That was very beautifully shown in a case he had that came from Cuba. Dr. Senn had radiographed the case on the way up and cut for the bullet, but had failed to find it. After the man had been admitted to the hospital he had symptoms resulting from the presence of the ball. Dr. Delatour had two radiographs taken (the ball was in the neighborhood of the knee); one was taken from before, backward, and one laterally. Instead of the ball, as it appeared in the first radiograph, being behind the femur, the lateral radiograph showed it to be behind the head of the tibia. He made his incision about three inches below and an inch or so to one side of Senn's incision, and came down immediately upon the bullet, but if he had followed a single radiograph, as Senn probably did, his incision would have been made at the same point Senn made his.

The case spoken of by Dr. Campbell where the bullet passed through the femur and made a perfectly round opening was a case peculiar other than for that fact. That ball had entered the man's back on the left side, and passing through his body, had entered the inner side of the thigh, and they took it out on the lower outer side of the thigh. That ball had passed completely through the man's body, and about fifteen days after the battle that man walked into the hospital.

Another man, a colored man, had a ball enter below the occipital protuberance and pass out at the top of the head in the median line almost at the forehead. He had absolutely no symptoms.

The case Dr. Campbell spoke of, where the ball had shattered the femur, was a peculiar one, in that they found in that extremity after they had amputated, a bullet of modern make, the so-called Mauser bullet, and an old flattened leaden bullet. The question of how one of our soldiers received a lead bullet, apparently from a Springfield rifle, was of considerable interest. The Government sent on from Washington, hearing of the case, and wanted to have the bullets photographed. He forwarded them to Washington, and very shortly afterward he received a request from the Surgeon-General that they might be deposited in the Army Museum.

In another man, he said, who was shot in the thigh, the bullet traversed the urethra and came out in front. He had a bladder fistula which persisted for a short time and healed.

Two cases of injury to the upper extremity gave him the most trouble. He was very much surprised at the pictures shown by Dr. Fowler

as to the wound of exit. In none of his cases was the wound of exit much larger than the wound of entrance.

As regards the treatment of abdominal wounds, where the bullets have passed through the abdomen, his experience, in what might be called civil surgery, from gun shot wounds has been that almost invariably where the bullet has entered the abdominal cavity injury has been done sufficient, either to the intestine or mesentery, to warrant opening the abdomen and some surgical interference. The cases coming from the Spanish-American War apparently did not warrant the same interference, and he believed we must be guided entirely by the individual case and not by the projectile.

Dr. J. D. SULLIVAN said that the only point in the paper that he felt like taking up was the one in which Dr. Fowler said that the great danger in the recent gun shot wounds of the abdomen was from the meddling or probing of the wound. He wished to emphasize that point, and to express his belief that the injury or damage done by the probe is not so much the danger of infecting the wound as it is by adding a further traumatism to the tissues. The tissues probably might be able to recover their vitality if they were let alone and not further handled or manipulated by probe, finger or other instrument, which might be the means of acting as the straw to break the camel's back and make the wound go badly. He had noticed this in all forms of surgery; that those surgeons who manipulate the tissues least get the best results. He frequently saw an operation done remarkably well, but the tissues were handled so much that in three or four days supuration occurred. The blame was ascribed to the catgut or attendants, but he attributed it to the manipulation done by the operator. While cleanliness is next to godliness, he said, rest is next to cleanliness.

Dr. J. R. TAYLOR wanted to call attention to one fact in regard to the manner in which a bullet may make a wound without striking any substance in its path to ricochet. With the ordinary leaden bullet it is not an uncommon thing to find on examination that the bullet instead of perforating in the line of its long axis has gone in broadside on. He did not think it impossible for the modern high power small calibre bullet to undergo the same change of direction, and possibly so produce the different character of injuries, which Dr. Fowler had shown on the screen, and which had been attributed to the ball striking a rock or some other substance and ripping off a

part of the mantle, and which might have been attributed to the use of a dum dum bullet. In the same way he had seen rifle bullets of the ordinary type enter the body at moderate ranges up to 200 yards when there was no possibility of their having been deflected in their course between the gun muzzle and the body.

Dr. G. R. FOWLER, in conclusion, said that the conditions in the treatment of gun shot wounds in civil life and those occurring in military life of course are due largely and almost exclusively to the difference in the arm employed; for instance nowadays in military life we seldom see contour shots, and yet in civil life these are not infrequent—a shot which strikes the body and at the moment of impaction, the one who is struck makes a sudden turning motion, and the bullet is deflected and carried around the outside of the chest wall, for instance, sometimes making its exit near the spinal column, but more frequently lodging under the skin, and a distinct tract of tenderness can be followed all the way around from the point of entrance to the point of exit, and yet at first glance it would appear as if the missile must certainly have gone through the patient's body, and still nothing of the kind has occurred.

Many years ago Simon made some experiments with reference to this subject. He hung up a cadaver and fired a shot and had an arrangement whereby the body was twisted around in the fraction of a second, and he could produce this effect of the contour shot every time, and without a twisting motion of the body the same direction of shot would result in a perforation of the chest. That was not uncommonly observed. Even to-day we see such conditions in civil life, while in military life they are almost unknown.

If we were to study the treatises on gun shot wounds of a hundred years ago and compare the effects with those seen by us to-day in civil life, they would compare very favorably with them. Except under the conditions following the Spanish War, when the wounded were brought up to the several hospitals of the North and placed under the care of the surgeons there, except under such favorable conditions, very few of these injuries are observed by surgeons in civil life.

As to the opening of the abdomen following a gun shot wound, theoretically it would seem if the surgeon could follow the oscillations of the bullet at once and repair could be made before there was any escape of septic fluid into the peritoneal cavity, the ideal result which follows an aseptic laparotomy might be obtained, but this is scarcely possible, as the shock has to be taken

into account, and second the uncertainty as to whether the bullet has gone forward, or as in Dr. Bristow's case, has simply lodged in the omentum. He conceived it highly improbable (not impossible of course) that a missile of any velocity of any size could traverse the abdominal cavity without injuring one or more coils of intestine; then the question of the damage that is inflicted, that is, the further damage that occurs as the result of the wounding, depends on how much intestinal contents escape, how prolonged this flow from the intestinal canal may be and how diffuse it may become. He thought there is small question there as to the virulency of the fluid, and the matter of the vital resistance of the patient is of comparatively little account. There it is simply a question of how much escapes and how long it continues to escape; the virulence is always enough to kill, and the vital resistance of the patient is never enough to resist it absolutely.

The fact that the bullet traverses tissues of different density had been dwelt upon, and he thought had been sufficiently emphasized, but there was one point that might be taken up, and that is in a low velocity, soft lead, unprotected fire arm missile: as it enters the body it becomes easily deflected from its normal course, and may do a considerable damage after its deflection; that is to say its velocity is not sufficient to prevent the deflection of the missile doing almost as much damage as if the missile pursued its original course. For instance, in a case under his care, a lad was shot in the buttocks by a stray and accidental shot. The bullet struck near the tuberosity of the ischium on one side, traveled across the urethra, struck the ascending ramus of the pubis on the opposite side and was then deflected upward and backward and lodged near the neck of the bladder, from which point it was removed. It was supposed at first that the most damage inflicted in this case was the damage done by the passage of the bullet across the urethra. It cut the urethra completely across, necessitating an immediate perineal section, at which operation the missile was removed, but it subsequently developed that the neck of the bladder had been injured by the bullet as it was deflected, so much so that for a considerable time afterward, when the patient was convalescing, there was incontinence of urine, the vesical neck having received injury from one-half to three-quarters of an inch back from the point the bullet crossed the urethra. In this case there was an opening up of the deep cellular pelvic planes and a septic inflammation

along the line of the psoas muscle, first on one side and then upon the other. The patient finally made a good recovery, but the case was one to cause a great deal of anxiety, and it was fraught with many lessons, not the least of which was the fact that even this slow power projectile traveling 30 or 40 feet and becoming deflected struck against the ascending ramus, was deflected from that, and still retained sufficient energy to wound the neck of the bladder itself.

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## BROOKLYN GYNECOLOGICAL SOCIETY.

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H. C. KEENAN, M.D., Editor.

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REGULAR MEETING, MARCH 3, 1905.

REMOVAL OF THE APPENDIX WHILE OPERATING  
FOR SALPINGITIS.

BY DR. GEORGE M'NAUGHTON.

### *Discussion.*

DR. C. JEWETT said, it had been his custom to take out all appendices when laparotomy was performed for whatever cause, if the condition of the patient permitted, and the appendix presented here was one of the best arguments in favor of this procedure. It does not add, as a rule, more than three minutes to the length of the operation.

DR. O. A. GORDON asked Dr. McNaughton what relation the appendix bore to this tumor.

DR. MCNAUGHTON replied that the omentum was attached to the tumor and broad ligament in several places. It was rather a difficult thing to get it out.

Dr. Gordon did not think anyone would question the advisability of removing such an appendix. It was doubled on itself by adhesions. He supposed that it was involved in the adhesions in connection with the tumor. That would hardly come under the head of removing a normal appendix when the abdomen is opened for other reasons.

DR. W. P. POOL remarked that this was a rather trite subject and had been discussed at great length a short time ago. However, he desired to speak of a very interesting paper, which he had heard recently at the Woman's Hospital Society of New York, a paper read by Dr. Baker, of Boston, in which he reported a series of twenty-four cases, in which an apparently normal appendix was removed during the course of abdominal operation done for some other reason. Histological examination was made of all these appendices, and in twenty-two a disease process was found. This seems to be rather a striking argu-

ment for the removal of the appendix under all circumstances.

DR. L. G. LANGSTAFF inquired as to whether the removal of a normal appendix added anything to the risks of life. If it did he did not see how one could justify oneself in removing a normal appendix.

Dr. Gordon stated that only 2% of the population ever suffer from appendicitis. Dr. Pool had just related a series of cases where 22 out of 24 apparently normal appendices were shown to be diseased. If these figures were correct, it seems strange that no larger percentage of the population suffer from appendicitis. He thought no one can dispute that there is a risk in removing a normal appendix. It may be a fraction of 1%. Perhaps in some hands the risk might be nil, but with the average operator there will be small risk, and unless it is diseased he maintained that one has no business to touch an apparently normal appendix.

DR. J. O. POLAK said he had lost a patient only a few days ago illustrative of Dr. Gordon's position as to removal of the appendix when the abdomen is opened for other causes. It was the first one he ever lost solely from the added risk of an appendix amputation to that of another operation. He had performed a hysterectomy on a woman in whom the appendix was very long; he had failed to cover up the stumps, owing to the depth of the pelvis, the amount of fat and the difficulty of getting the peritoneal flaps over because of the previous pelvic inflammation. For this reason he thought he would feel safer with the appendix out than in. Her condition was not good, so he rapidly tied off the appendix as recommended by Seely and Lilienthal. On the second day the woman was seized with severe pain in the right side and developed local peritonitis in the region of the appendix. Vomiting set in and she died on the fourth day of a local peritonitis which had kept up the persistent vomiting. He simply reported this case because he had stood in favor of removing the appendix when the abdomen was open. The ligature had slipped or the stump had sloughed.

DR. L. G. BALDWIN said that he did not think this case of Dr. Polak's ought to go down as an argument against the removal of the appendix.

Dr. Gordon stated that Deaver, who at one time was in favor of removing the appendix when he saw it, to-day is positively opposed to that procedure unless it is diseased.

The patient from whom this tumor was removed was delivered of her first child Sept. 21,

1904. Her labor and puerperium were normal. Examination at the end of two months showed her pelvic organs to be in a normal condition. She menstruated Feb. 14, and the only thing out of the ordinary was a sensation of fullness and pressure in the pelvis which continued to a moderate degree up to the time of her second menstruation, March 29 (six weeks and one day from the first period). This continued for seven days and was profuse. The pelvic pressure became more pronounced, which led her to consult Dr. Peebles who discovered a mass in the pelvis and kindly referred her to me. Examination revealed a large mass which filled the pelvic cavity, crowding the uterus up and to the left. The cervix was very soft, and the uterus somewhat enlarged. Pressure on the tumor was quite painful, and the temperature was 101. Operation was advised and accepted. Upon opening the abdomen this cyst of the right tube, with three twists of the proximal end, was found. The measurements were  $4\frac{1}{4} \times 4 \times 3\frac{1}{4}$  inches. It has been preserved in alcohol and has shrunk somewhat since the operation. After the members have had an opportunity to examine the specimen I will open it in order that we may arrive at a clearer diagnosis. (The case seems to be of interest from the fact that the tumor attained such a size without rupture.) The patient made an uninterrupted recovery and left the hospital in thirteen days.

Upon opening, the tumor is shown to be a hydrosalpinx.

PAPER: HEMORRHAGIC CYST OF FALLOPIAN TUBE.

BY DR. O. A. GORDON.

#### *Discussion.*

DR. L. G. BALDWIN said that as he had an opportunity of seeing the case before the operation and saw the removal of the mass, it was only fair to make a free confession of ignorance as to diagnosis. The six weeks' amenorrhea rather led him to suppose that it was an ectopic pregnancy, yet the almost entire absence of pain caused him to doubt it on account of the size of the mass, and his feeling was before the abdomen was opened, that it was either an ectopic pregnancy, or (with the weight of evidence in his mind being in favor of it) an inflamed cystic ovary. It is now evident that it is neither one of the two. It looked to him now that it was simply a hemorrhagic tube due to a twist in the pedicle.

DR. GORDON, replying to a question, said that the other tube was patent and normal.



DR. R. H. POMEROY said that he raised this question because the interesting feature about the case was the pathology. He operated on a similar case two months ago, in which was a history of acute pain and gradually enlarging tumor that could be noted suprapubically. There was some resistance in the pelvis. The patient was not in any grave condition, except for the pain of the peritonitis, evidently non-septic. The operation showed a hematosalpinx about the size of a large banana, and lying just back of the bladder with two twists in the pedicle. All the adjacent structures were adherent by recent plastic peritonitis with no great amount of exudate. The interesting feature in that case was that the other tube was a hematosalpinx, but not twisted, and, of course, of very much smaller size. His conclusion at the time was that they were both hydrosalpinges, and one becoming twisted, hemorrhage and inflammation was the result. He presumed the specimen presented was of the same character.

#### SECONDARY OPERATION FOR PYOSALPINX OF REMAINING TUBE.

DR. J. O. POLAK presented a specimen, which he said brought out a point about salpingitis, which Dr. Keenan had spoken of at the last meeting.

This patient, 24 years of age, three years ago contracted acute gonorrhea, which resulted in some tubal inflammation. She went to the Lebanon Hospital and was operated on by Dr. Waldo. He removed the right tube and ovary for adnexal disease. For five weeks after leaving the hospital her condition was perfect. At the end of that time she was suddenly seized with pain in the left side. She had a pelvic peritonitis. The pain gradually subsided until it only bothered her at menstrual periods. For the past year she has had almost constant pain in the left side and a great deal of difficulty in moving freely. She could not bring herself up to the erect posture without causing dragging pain in the pelvis. He saw her about seven weeks ago. At that time he made a diagnosis of a left salpingitis with pelvic peritonitis and adhesions in the right side of her pelvis.

He opened the abdomen and found the omentum adherent in the right lateral *cul-de-sac*, forming a tense apron over the intestines, which explained her discomfort on assuming an erect posture. The adhesions were freed, the omentum amputated, and the uterus and left tube and ovary

were removed. The tube close to its uterine end had an absolute stenosis, due to interstitial hyperplasia of the tissue.

The point he wanted to bring out was, that *where* there has been a gonorrheal salpingitis from gonorrheal involvement, both tubes are always involved to a greater or less extent, and when it is necessary to remove one tube in these cases, he did not believe it is wise to leave the other. Tubes such as these certainly demonstrated that Tait's dictum was a good one, that where gonorrhea has entered the body of the uterus and extended to the tubes, as it will in almost all cases, when one tube has to be removed for hyperplastic inflammation, the other tube is as well out as in—much better, for that matter.

DR. G. McNAUGHTON wanted to know if the reason for removing the body of the uterus was on account of the infection of the endometrium. If Dr. Polak had allowed the uterus to remain what harm would it have done? Was the drainage as good as uterine drainage would have been under these circumstances? Removing the body of the uterus adds considerably to the risk of the operation. He questioned the propriety of always removing the body of the uterus under all circumstances. Although the uterus may be useless it is not a menace. It does fill a purpose—helps to complete the contents of the pelvis.

Dr. Polak, replying, said that in this particular case he removed the uterus for two reasons. One was the fact that the woman had had gonorrhea. He admitted that a number of these gonococci outlive their virulence if you take away the possibility of getting out of the uterus, they become quiescent and the uterus often gives no trouble. At the same time he had seen a number of uteri where both tubes and ovaries had been removed that have given a great deal of trouble with leucorrhea and a sero-sanguineous discharge. In the general treatment of gonorrheal cases he should prefer to remove the body of the uterus with the tubes, if both tubes need to be removed. There are a certain number of these cases which do not become quiescent, and again by leaving the cervix in we get a very much better pelvis than we can if we take the tubes out and leave a bare uterus, as we frequently do in these cases. The more extensive and older the inflammation, the more extensive adhesions are present, and the more raw surfaces we have the less satisfactory results are obtained.

DR. BALDWIN inquired, not in a spirit of criticism, he said, but in getting at the truth of these particular cases, why the entire cervix is left in

the patient. In his experience the troublesome leucorrhœas that we get come from the cervix and not from the body of the uterus, and he thought, to make these cases complete, the ideal thing, if you are going to remove any part of the uterus, take it all.

#### NEW NEEDLE HOLDER.

DR. L. G. LANGSTAFF presented a needle holder, and showed also, for comparison, two other needle holders in most common use. He claimed the following advantages for the one he had devised: It would positively hold needles of all styles and sizes without breaking them. It was simple in construction, light and quickly manipulated, and differed radically from any others he had seen.

#### PAPER: THE TREATMENT OF INEVITABLE AND INCOMPLETE ABORTION.

BY DR. L. G. LANSTAFF.

DR. O. A. GORDON understood the doctor to say that he never used tampons in cases of inevitable abortion. Perhaps he was a little old-fashioned, but if he found a woman suffering from impending abortion he introduced an aseptic tampon and left the patient in charge of a competent nurse. And in most instances on his return visit the products of conception would be found in the vagina, and it would be unnecessary to interfere with the interior of the uterus at all.

DR. H. C. KEENAN agreed with Dr. Gordon in the use of tampons in these cases of inevitable abortion. By putting in a tampon and leaving it there for 24 hours, frequently the cervix will soften up considerably, expulsive pains will be set up, and the entire mass will be delivered. As far as he could see there is no danger at all in inserting a tampon in these cases, as there is no infection at the time.

As to the puncture of the uterus by the curette. As far as he knew, and as far as he had read, it does not seem to be a very dangerous accident, unless the uterus is infected. He had gone through the uterus on two occasions. Nothing at all followed it. Most authors seem to think it rather a trivial accident, except where there is a certain amount of infection in the uterus.

As to emptying the uterus, he did not think it is possible to be positive that the uterus is empty, unless the finger is introduced. In a few confessions in this society two years ago a number of gentlemen acknowledged they had curetted uteri, and unknowingly left behind a considerable mass, showing that even the experienced operator

may be mistaken and believe the uterus empty, when there is a large piece of placenta still remaining.

DR. J. C. MACVITT said that in the treatment of these cases it is necessary to view them both from the standpoint of the general practitioner and of the specialist; the specialist sees most of his cases in the hospital. A good practice, when the symptoms indicate inevitable abortion, is to use some antiseptic solution to wash out the vagina, and then tampon. After 12 to 48 hours, if the foetus and membranes are not found in the vagina, and the pain and hemorrhage continue, instrumental delivery is necessary and should be resorted to without any hesitancy whatever.

It has been a general practice to curette, and it is wonderful what varying results have been achieved from the fact that the reported mortality has been so low in the hands of many, while, on the other hand, so large with others. The teachings of recent years is not to use the curette at all. The fault of the use of the curette, in his opinion, is this, if you know in what portion of the uterus the site of the placental attachment is, a dull curette would do no harm, but with the indiscriminate use of the curette in the uterine cavity, you certainly remove a great deal of healthy mucous membrane, leaving a greater field for infection. After the ovum has been expelled with its membranes, should septic symptoms appear, the washing out of the uterus is demanded, and is one of the most requisite procedures for the safety of the patient.

His practice in the hospital is invariably to dilate to such an extent that by the introduction of the finger he can sweep over the whole surface of the uterus, and where he finds any remaining membrane to remove in that way, but oftentimes particles will remain, which the finger will not remove, and which are firmly adherent to the uterine wall. In such cases, then, the dull curette, or one sharp enough to remove the pieces, is absolutely necessary.

The after-treatment is simple; if any septic symptoms arise use the intrauterine douche, and upon the subsidence of the temperature its discontinuance.

The curette devised by Dr. Langstaff is, beyond all doubt, an improvement over those now in general use. The downward inclination of the cutting edge removes a dangerous quality and lessens the possibility of doing harm.

DR. R. H. POMEROY said that there were so many different conditions encountered in abor-

tion cases that it had never been possible for him to formulate a universal line of treatment, because the management must vary a great deal with the period of gestation and the circumstances under which the abortion occurs. From a practical standpoint he had been in the habit of acting in most cases of early abortion on the supposition that there should be a distinct line of management as to whether the case was probably infected or presumably uninfected. If your patient on her own statement will eliminate to your satisfaction any reason to believe that the interior of the uterus has been tampered with by herself or another, one can deal with the situation almost entirely on the supposition that hemorrhage is the only danger. That can usually be controlled by vaginal sterile tamponade until the major part of the ovum has been extruded. It may need a little assistance if a portion of it has been arrested in the cervix. He believed that in 90% of the cases if no further treatment is carried on, the case will take care of itself thereafter.

The other class of cases in which we get an admission of intra-uterine instrumentation, as well as those in which there is a continuation of hemorrhage or offensive lochial discharge after the major part of the ovum has been apparently extruded, call for surgical complete cleansing of the uterine cavity. He agreed with Dr. MacEvitt that the only positive guide we have as to whether that uterus is empty or not is the finger examination under an anesthetic, and with that we may need to use the curette to loosen some attached portions, but that usually any material that needs to be removed can be detached by the finger and removed with forceps, and the uterus flushed out, either with a mild disinfectant such as a weak formalin solution, or in case of active oozing, he is in the habit of using a solution of tr. iodine and water—an ounce to the litre.

In summarizing the intent of these comments he ventures to express an opinion that post-abortion curetting—in the sense of scraping over every portion of the intra-uterine surface—is unnecessary in uninfected and mischievous in infected cases.

As to the puncture of the uterus, he thought, in the main, that it is a matter to be ignored, except that it is a good point at which to stop operating. When you are sure you have punctured the uterus, do not do more than clean out the vagina with swabs, without irrigating. As a rule, do not worry, and do not think of doing a laparotomy.

DR. J. O. POLAK agreed with Dr. Pomeroy in

classifying these cases into the septic and non-septic. He further classified them into those cases of less than three months and those over. He did not think the cases of two months could be handled with the finger. He took exception to the doctor there; cases of three months or over are better handled with the finger than the curette. Inevitable abortion means the ovum has become loosened, and if there has not been any interference by intra-uterine instrumentation, that ovum is intact, and if the vagina is thoroughly packed, no further interference is necessary. It is unwise to douche out the vagina beforehand, as you do more harm by douching than by leaving it alone. As long as the vulva is clean, that is all we need concern ourselves about.

In these cases he has been in the habit of packing the vagina with the patient in the knee chest position, and leaves the pack there for 24 hours. Many of these patients do not need to have anything more done, as in most cases the ovum is out of the cervix when you take out the pack. Ergot is given afterwards, and the patient makes an uneventful and aseptic recovery.

In the incomplete cases with hemorrhage it is a different proposition, as it is a different proposition, as Dr. Pomeroy made the point, in incomplete cases following instrumentation, either criminal or otherwise. These cases need to be emptied. There is no question but that emptying by the finger can be done, and it is just as thorough and safer for the patient than curetting. Occasionally there are some pieces that you cannot remove by the finger. He has gone a step further in these cases; he has not curetted; he has packed the uterus with iodoform gauze and taken it out in 24 hours, and the pieces of endometrial tissue would be on the gauze the next morning. In that way the uterus was stimulated to contraction and the continuity of structure was left undisturbed better than by curetting.

The doctor thought we had to regulate the treatment of these cases from the standpoint of the general practitioner. Aseptic tamponade is much safer for the general practitioner than aseptic curetting.

In regard to perforation of the uterus, he could not see why Dr. Langstaff's curette could not perforate the uterus. He had perforated the uterus with a douche tube, he had perforated it with his finger in a case of deciduoma malignum, and he had perforated the uterus with a Mundé curette, which is known to be dull. Perforation of the uterus is not such a serious matter; every one of us have perforated it at some time. He

has always followed the principle that when we have perforated, get out as quickly as possible and do not douche. He worried over the first two or three perforations he had, but he has not worried lately, and he has gone through the uterus a number of times. Dr. Langstaff's curette had the advantage that it could rake, but he did not think that it had any other advantage over the other curettes.

In septic cases there is one criticism he wanted to make of the doctor's statement in his treatment. He spoke of the post-partum douches. On general principles, Dr. Polak thought post-partum douches were bad. It would not be if a douche could be given under surgical cleanliness, but to prescribe a douche every three hours or once a day is a dangerous procedure, even with the ordinary trained nurse, and he thought these patients are much better left alone. If the uterus is empty it will drain itself, and if the patient changes her position the vagina will empty itself; and he, consequently, could not see why any douche should be given in these cases.

DR. W. P. POOL stated that, as to curetting the uterus, he fully agreed with what had been said as to the division of the cases into septic and non-septic. He could not understand why a curette, sharp or dull, is dangerous in a non-septic uterus. If there is any reason to suspect sepsis, other means must be taken. If a part of the placental tissue remains attached to the uterine wall, he uses a Keith forceps with a sponge and tries to remove it in that manner, or the method of packing the uterus and removing the gauze in 24 hours, in which case the pieces will usually be attached to the gauze.

DR. G. McNAUGHTON wished he was as lucky as Dr. Polak after tamponing the vagina in cases of inevitable abortion in always finding the ovum on the gauze next day. In the main, he thought, we all treated these cases very much alike. One instrument had been mentioned, which he would take exception to, and that is the placental forceps. He believed it to be the most dangerous instrument we can put into a uterus, for the reason that you can perforate the uterus, and you may close the forceps on tissue that is not uterine tissue. He had seen a loop of small intestine brought down, thinking it was something else, and he had seen intestinal anastomosis made necessary by the use of that instrument. He believed it is more dangerous than a curette. When pregnancy is present, the uterus is easily perforated, and he believed the less instrumentation possible, the better for the patient.

DR. A. A. HUSSEY said there was one point he very often found it difficult to determine: the question as to whether the symptoms of sepsis or temperature, rise of pulse, etc., are due to a condition of sapræmia, septicæmia or streptococcus infection. He thought the differentiation is important, because the difference in treatment in the two cases is considerable. If it is simply a sapræmia due to putrefaction of the retained products, they should be removed at once. If it is a septic infection of the lining of the uterus, it did not seem to him that an instrument, sharp or dull, scraping over the surface of that infected uterus is going to enhance the woman's chances of recovery. It will break up the protecting zone of round-celled infiltration and increase the chances of further spread of the infection.

DR. L. G. LANGSTAFF, in closing, said that two or three points brought out in the discussion were of interest to him. One was about tamponing the vagina. He has found the operation of curetting very simple; in fact it is as simple as tamponing the vagina, and is more satisfactory in the long run to the patient. There is an uncertainty in tamponing the vagina whether one will get the results one expects. He did not think satisfactory results occur quite as often as is stated. You have to tampon the vagina tightly and perhaps interfere with urination, and after all that trouble you may still have to curette.

He thought the point Dr. Polak made about douching out the vagina was a good one. Of course, he knew there was a great risk in untrained nurses douching the uterus when it is only intended to douche the vagina.

His curette is square at the end while the others are rounded; puncturing is thus almost impossible. So far he has had a great deal of satisfaction with it, and he based his remarks on the experience he had had.

DR. J. S. McCOLLUM, in an original article published in *Boston Medical and Surgical Journal*, June 17, 1905, titled *The Experience of Nine Years in the Treatment of Diphtheria with Antitoxin*, states that it was not until 1859 that the term "diphtheria" was used in Boston, as far as we are able to learn from the death certificates. Boston has suffered more from diphtheria than any of the larger cities in this country. He further insists upon the importance of giving the serum at the earliest moment possible of the disease, which in attacks of diphtheria of a severe type should be given in very large doses. In laryngeal diphtheria, intubation is the operation of election.

# Brooklyn Medical Journal.

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BROOKLYN-NEW YORK, JULY, 1905.

## QUACKERY IN THE LEGAL PROFESSION.

Quacks in the medical profession are, as a rule, very promptly weeded out of the county medical organizations. It is all the more a cause of surprise to the doctors that the lawyers who so frequently seize the opportunities presented to flay them in a friendly spirit, do not take measures to rid their ranks of the glaringly offensive membership which persists in applying the methods of the quack to the acquisition of clients. The principle of "no pay without favorable verdict" seems to come very close to that of the "old, reliable Doctor Blank" who advertises "no cure, no pay." The particular aspect of the commercial spirit among the lawyers which daily offends the sense of right of the physician is the development of a tribe of legal sharks who have earned for themselves the title of "ambulance chasers." These men, or their representatives, are promptly on hand after any accident, even following the patient to the hospital in the guise of an anxious friend or relative and at a time when, often, an injured patient should be undisturbed, or even when his thoughts would better be turned to other than earthly affairs, holding out prospects of unearned gain, or promises of large damages until the patient commits himself body and soul to these unhallowed interlopers. It is said that some of the Brooklyn hospitals are vainly seeking relief from these individuals. The conditions are such that they cannot well be excluded without causing occasional unnecessary hardship to the patient and his real friends.

The Bar Association should certainly act, if these conditions exist here as they are reported. The exclusion of a few flagrant offenders from the privileges of the court would rapidly produce

a change for the better, and the ends of justice would likewise be better served than is at present the case.

## MEETING OF THE AMERICAN MEDICAL ASSOCIATION AT PORTLAND, OREGON.

The meeting of the American Medical Association at Portland, this summer, promises to be one of more than ordinary interest. Many men will be attracted from the East by one if not by all of the features, which bid fair to make it attractive. The wish to see part of the wonderful Western country is seldom gratified by the medical man, unless some opportunity like this presents itself. A program of more than ordinary excellence has also been provided in various departments of medicine, in itself of sufficient value to attract a large meeting, even though the place itself had no attractions of its own.

The preparations made are so thorough and complete that a very large number of physicians will doubtless make the journey and contribute to the success of the meeting.

## SANITATION ON THE ISTHMUS OF PANAMA.

As the Japanese army surgeons obtained surprising results in the maintenance of the health of their armies, so can the United States army surgeons obtain equally good sanitation on the Isthmus. The results secured by the Japanese were obtained through the application of sanitary laws which are the common property of the medical world. The magnificent showing was but the outcome of a successful and skillful application of them. The responsibility of attainment lay with the governors, the generals-in-chief, who saw or were made to see the possibilities of the application of sanitary science to the health of armies.

The ability of the United States, both in regard to skill in sanitary science and in financial power, leave no excuse for anything but the best sanitary conditions among the troops and the army of employees on the Isthmus.

## OBITUARIES.

### HEBER NELSON HOOPLE, M. D.

It is with feelings of sadness that the writer is called upon to record the death of his colleague in the historical work of the Society. Dr. Hoople was chairman of the Historical Committee in 1901, and a member of the same in 1904 to the time of his death.

Dr. Hoople was born in Stomout County, Province of Ontario, Canada, on October 4, 1856,

and died in Brooklyn, N. Y., May 8, 1905. His father was Nelson Hoople and his mother, Elizabeth Adams, both of Ontario, Canada.

In 1895 he was united in marriage with Miss Carrie Louise Munson, of Cobourg, Canada. Two children were born of this union, a son and a daughter.



HEBER NELSON HOOPLE.

Dr. Hoople was educated in the public and high schools of Ontario, and graduated A.B. from Victoria College in 1878. The study of medicine was begun under the direction of Tecumseh H. Holmes, M.D., of Ontario. Matriculating with Trinity Medical College in 1881, he received the degree of M.D. from the University of Toronto Medical Department in 1885, and in the same year from Bellevue Hospital Medical College, New York. His private practice dates from the year of his graduation in this city until the time of his death.

During his professional life he held the position of Assistant Sanitary Inspector, Brooklyn Health Department; Assistant Surgeon to the Williamsburg Hospital, Eye and Ear Infirmary, New York City, and the Brooklyn Throat Hospital, Eye Department.

He was a member of the Medical Society of the County of Kings, 1888-1905; Brooklyn Pathological Society, Long Island Medical Society, Associated Physicians of Long Island, 1899-1905; the New York Physicians' Mutual Aid Association, Kings County Medical Association,

British Medical Association, 1886-1905; Medical Association of Greater New York, 1900-1905; American Medical Association and the American Laryngological, Rhinological and Otological Society; Arts and Sciences, 1885-1895; University Club, Brooklyn, and Hill Grove Lodge, No. 206, F. A. M.

#### MEDICAL PAPERS.

- History of a Case with Menière's Syndrome. 1897. Praxis.
- 1897. Some Cases of Reflex Neurosis.
- 1900. Tooth from the Right Nares.
- 1900. Nasal Reflex Neurosis.
- 1900. Anatomy of the Middle Ear.
- 1900. Orbital Cellulitis; presentation of patient; History.
- 1901. A Nasal Condition affecting the Ocular Muscles.
- 1901. Economics of the practice of Medicine.

#### MAUD MILLER, M. D.

This is the first time in the history of the Medical Society of the County of Kings that we are called upon to record the life work of a woman physician who died during the time of her active membership in the Society. Dr. Miller was born in Brooklyn, N. Y., March 18, 1876, where she died on May 22, 1905. Her father was the late Rev. Charles E. Miller, D.D., for a number of years pastor of the De Kalb Avenue M. E. Church. Her mother was Ella Virginia Briggs, of New York City.

Dr. Miller was educated in the public schools and the Girls' High School, of this city, and the Law Class for Women of the New York University, graduating M.D. from the Woman's Medical College, New York City, in 1899. This was followed as interne in the New York Infirmary from July, 1899, to November, 1900. Entering upon the practice of medicine in this city, she was a member of the Medical Society of the County of Kings from 1901 to 1905. The funeral services were conducted at the De Kalb Avenue M. E. Church.

WILLIAM SCHROEDER, M.D.,  
*Chairman of the Hist. Com.*

**Resolutions adopted by the Section on Laryngology, Rhinology and Otology, of the Medical Society of the County of Kings, on the death of Dr. Heber N. Hoople:**

*Whereas*, The death of Dr. Heber N. Hoople has removed from the Section on Laryngology, Rhinology and Otology, of the Medical Society of the County of Kings, an active member, and one who was enthusiastically devoted to the practice of our chosen department of medicine,

*Be it Resolved*, That we hereby express sorrow and regret for the loss of his presence from our meetings. His work was guided by a high sincerity of purpose, and this section has met with a distinct loss in his death.

*Be it further Resolved*, That a copy of these resolutions be presented to Mrs. Hoople and the BROOKLYN MEDICAL JOURNAL for publication, and that they be spread upon the minutes of this section.

WILLIAM C. BRAISLIN.

P. H. STURGES.

J. E. SHEPPARD.

WM. F. DUDLEY.

HENRY MITCHELL SMITH.

### MEDICAL NEWS.

EDITED BY CLARENCE REGINALD HYDE, M.D.

*It is earnestly hoped that all members of the profession possessing news concerning themselves or their friends, which would interest others, will communicate the same to the News Editor before the 9th of each month. Items for this department should be sent promptly to Clarence Reginald Hyde, M.D., 126 Joralemon Street.*

Dr. Fred. D. Bailey will spend the months of July and August at Richmond Springs.

Dr. Martin Linderorth's temporary address is Essex, Conn.

Dr. and Mrs. Paul M. Pilcher will remain in Germany until October.

Dr. William Averill Jewett announces the removal of his office to 380 Vanderbilt avenue.

Dr. William S. Bainbridge has been appointed Consulting Gynecologist to St. Mary's Hospital, Jamaica, L. I.

Dr. Henry A. Alderton expects to leave Brooklyn August 1st for a month in California. He will return September 1st. Dr. Alderton's family has recently arrived on the Pacific coast.

The Association of Medical Librarians has selected the following officers for 1905-6: President, Abraham Jacobi, M.D., LL.D., New York; George Dock, Ann Harbor, Mich., Vice-President; Albert T. Huntington, Brooklyn, N. Y., Secretary; George D. Hersey, M.D., Providence, R. I., Treasurer; John S. Brownne, New York City; Charles Perry Fisher, Philadelphia, Pa.; James R. Chadwick, Boston, Mass., Executive Committee. The Finance Committee is composed of William Osler, M.D., Oxford, Eng.; Frank J. Lutz, M.D., St. Louis, Mo.; Albert Van der Veer, Albany, N. Y.; Eugene F. Cordell, M.D., Baltimore, Md., and James M. Winfield, M.D., Brooklyn, N. Y.

Mrs. J. W. Lockwood, of 30 South Portland avenue, announces the marriage of her daughter, Isabel, to Dr. Nathan T. Beers, Jr., M.D., of 196 New York Avenue, on June 16th. It was the Doctor's intention to have a quiet wedding, but this plan was frustrated by several of his friends who saw to it that his journey from the house to New York was enlivened by proceedings warranted to make the bashful groom wish for wings. It is said that the Doctor remarked that "Quiet weddings are too strenuous for me. When I marry again there will be no *quiet* wedding."

On July 12 the Associated Physicians of Long Island will hold their meeting at Oyster Bay. An attractive program has been provided by Dr. Dickinson, who hopes to have as guest Dr. John B. Murphy, of Chicago. Dr. Delatour, as chairman of the Entertainment Committee, announces that President Roosevelt will attend the meeting.

Recently the surgical staff of the Long Island College Hospital met to look over and discuss the plans of the new Skene Memorial Operating Amphitheatre, to be erected in conjunction with the new hospital buildings. The plans propose the erection of a most complete and elaborate operating plant, occupying the two top floors of the Amity Street pavilion. A separate entrance for students from the ground floor to the Amphitheatre is provided, so that no student can go through a ward or any of the hospital buildings when he wishes to attend an operation. The amphitheatre is designed to seat two hundred and fifty, and is a model of architectural construction, especially as regards ventilation, heating, lighting and facilities for cleansing. Special rooms have been provided for the surgical staff, the suite consisting of lounging and smoking rooms, large private lockers, shower and tub baths, lavatory and dressing rooms. The operating nurses fare equally well. There will also be separate rooms for instruments, sterilizing plants, "recovery" and anesthesia rooms, visitors' quarters, two small private operating rooms with separate sterilizing apparatus, a room for surgical dressings, and X-ray work, and one for the surgeons' use in sterilizing their hands. In addition, there will be a private laboratory, with resident pathologist, for immediate diagnosis of suspected specimens. When complete, the hospital can boast of the best-equipped and most modernly constructed operating plant of any hospital in the United States, embodying, as it does, the salient features of the well equipped operating plants of other well-known hospitals.



## BOOK REVIEWS.

**HEALTH AND DISEASE IN RELATION TO MARRIAGE AND THE MARRIED STATE.** Edited by Prof. Dr. H. Senator and Dr. S. Kaminer. The only authorized translation from the German into the English language by J. Dulberg, M.D. Volume I. N. Y., Rebman Co., 1904. 498 pp. 8vo. Price: Cloth, \$3.50.

This and the volume to follow constitute an exhaustive discussion of the title-subject in general and in particular. It is done with German thoroughness and attention to minutiae. The various chapters comprising the first volume have been written by such men as Senator, Orth, Fürbringer, v. Leyden, Ewald, and others equally competent. Among the subjects here treated are the Hygiene of Marriage, Consanguinity and Marriage, and Marriage as Related to Constitutional Diseases, and Diseases of the Blood and Vascular System, of the Respiratory and Digestive Organs, and the Kidneys.

This work, because of the standing of its writers, and the evidently careful study bestowed upon its subjects, must be considered as authoritative; and if any one desires information concerning this heretofore little considered field of medicine and hygiene, he will be able to find it here in full measure. G. R. B.

**THE PRACTICAL MEDICINE SERIES OF YEAR BOOKS.** Vol. VIII. July, 1904. *Materia Medica and Therapeutics*, *Preventive Medicine*, *Climatology*, *Suggestive Therapeutics*, *Forensic Medicine*. Chicago Year Book Publishers, 1904. 344 pp. 12mo. Price: Cloth, \$1.00.

It is a pleasure to renew the commendations, previously expressed, of this handy and useful series of year books. The digests of current literature on the topics included in the volume are condensed but quite sufficiently complete for reference. G. R. B.

**A REFERENCE HANDBOOK OF THE MEDICAL SCIENCES.** *New Edition.* Edited by Albert H. Buck, M.D. Vol. VIII. UMB-ZYM and Index. N. Y., W. Wood & Co., 1904.

The last volume of this encyclopædic work measures up to the high standard of its predecessor. The accomplished editor may well congratulate his coworkers and himself on the successful completion of an enormous task. The Handbook is indeed a library in itself, and as a book of reference is without a peer. G. R. B.

**MANUAL OF SERUM DIAGNOSIS.** By Rostowski.

This small volume contains the best summary of our present knowledge of the theory and practice of serum diagnosis yet published. The translator, Dr. Boldman, of Brooklyn, is to be congratulated on the admirable manner in which he has rendered the original German text into clear and readable English. G. R. B.

**SAUNDERS' MEDICAL HAND-ATLASES. ATLAS AND EPI-TOME OF OPERATIVE OPHTHALMOLOGY.** By Prof. Dr. O. Haab. Authorized translation from the German, with Editorial Notes and Additions. Edited by G. E. de Schweinitz, A.M., M.D. Phil., N. Y., Lond., W. B. Saunders & Co., 1905. 377 pp., 30 col. pl. 12mo. Price: Cloth, \$3.50.

Without any disparagement to the previous atlases of Haab, it can be said that this last is by far the best of the series. Next to the pleasure of seeing a famous surgeon operate, comes the gratification derived from studying plates accurately representing all the important operations on the eye.

The notes and suggestions by Dr. de Schweinitz have greatly enhanced the value of the work. Doubtless, this is the best book, published in the English language, on the subject of ophthalmic surgery.

JAMES W. INGALLS.

**THE OPHTHALMIC YEAR-BOOK.** A Digest of the Literature of Ophthalmology with Index of Publications for the Year 1903. By Edward Jackson, A.M., M.D. Denver, Col., The Herrick Book & Stationery Co.,

1904. Col. front., x, 11-260 pp. 8vo. Price: Cloth, \$2.00.

The mass of ophthalmic literature, annually published, is so overwhelming that it is next to impossible for one to be familiar with more than a fraction of what has been written during the preceding year. In order to aid the oculist in obtaining a clear and comprehensive view of the progress of ophthalmology, Dr. Jackson has given a careful résumé of all the more important articles. Also he has added a complete index, both of authors and subjects. The Ophthalmic Year-Book will be invaluable for reference.

JAMES W. INGALLS.

**DISEASES OF THE EYE AND EAR.** A Manual for Students and Practitioners. By Arthur N. Alling, M.D., and Ovidus Arthur Griffin, B.S., M.D. Phil., N. Y., Lea Bros. & Co., 1905. 9, 17-252 pp. 12mo. Price: Cloth, \$1.00.

This manual has been carefully prepared to meet the needs of students and those who wish to become familiar with the essentials of ophthalmology and otology. The main facts have been clearly stated and theories avoided. In order to assist in preparation for examination, questions are appended to each chapter.

JAMES W. INGALLS.

**BACTERIOLOGY AND SURGICAL TECHNIQUE FOR NURSES.** By Emily M. A. Stoney. *Second Edition, Thoroughly Revised and Enlarged.* By Frederic Richardson Griffith, M.D. (Univ. of Penn.) Phil., N. Y., Lond., W. B. Saunders & Co., 1905. ii, 278 pp. 8vo. Price: Cloth, \$1.50.

The author of this work has written so well and successfully before, that we naturally expect much from her pen. This revised and enlarged second edition is a creditable production and amply fulfills the purpose for which it was intended. The portion devoted to bacteriology is clear, concise, and sufficient, while the surgical technique is well adapted to the nurse's needs.

There is but one criticism which can justly be made in this book, and it really amounts to a protest, namely, the paper on which this book is printed is an abomination. In thickness the leaves almost approach the proportions of card-board. We cannot understand why publishers are willing to sacrifice the artistic and the useful for the sake of *bulk*.

WILLIAM FRANCIS CAMPBELL.

**THE PRACTICAL MEDICINE SERIES OF YEAR-BOOKS.** Series 1905. Vol. II. *General Surgery.* Edited by John B. Murphy, M.D. Chic., Year-Book Publishers, 1905. 543 pp. 12mo. Price: Cloth, \$1.50.

It is always a pleasure to review this year-book of general surgery edited by Murphy. It is the most concise, complete and satisfactory résumé of surgical literature published. The articles have been selected with discrimination and reflect the best surgical thought. The editor's comments are worthy of consideration and give the work a distinct value. No better compilation of the latest in surgical progress can be obtained.

**TRANSACTIONS OF THE NATIONAL ASSOCIATION OF THE UNITED STATES PENSION EXAMINING SURGEONS.** Second Annual Meeting, Washington, D. C., May 13, 14, 1903. Including an Account of First Meeting, at Saratoga Springs, June 9, 1902. Vol. I. Rochester, N. Y. Published by the Association. 1903. 215 pp. 8vo.

Among the various boards of examiners those who examine applicants for pension need the most patience, tact and discernment. In these transactions will be found many helpful suggestions and much that will aid in the attainment of more accurate work.

The article on Improvement of Reports by Raub is specially pertinent and suggestive, and will amply repay a perusal. There are many other excellent articles of timely interest to those specially interested in this line of work.

WILLIAM FRANCIS CAMPBELL.

# BROOKLYN MEDICAL JOURNAL

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No. 8.

## ORIGINAL ARTICLES.

### HONORS THAT HAVE COME TO THE MEDICAL PROFESSION IN AMERICA.

BY WILLIAM SCHROEDER, M.D.

Chairman of the Historical Committee of the Medical Society  
County of Kings and the Brooklyn Medical Society.  
Member of the Historical Committee of the  
Associate Physicians of Long Island.

The silent motto of a museum is, "All things come to him who waits." And so it is with the medical profession. Many years have come and gone with no silent monitor to remind the people that there ever was a physician or surgeon in the United States worthy of having his figure cast in bronze or cut in stone, or his name perpetuated by some institution of learning or hospital for the care of suffering humanity. True, there have been memorials erected in honor of those who have been at some time in their lives students of medicine, or who have practiced the healing art, and for some reason or other have adopted other professions. This does not dispose of the fact that they were at one time one of us, and we, as a profession, should ever hold them in grateful remembrance. There are those who were born in America and were honored on the other side; others came from Europe to receive their reward in the land of their adoption. A few, whose labors have been of such a high order as to command recognition on this side of the Atlantic, have received it, although they themselves have not had the opportunity to be among us.

Standing in Central Park, New York City, is a bronze bust of ALEXANDER VON HUMBOLDT. It rests upon a granite pedestal, and was presented to the city September 14, 1869. He was not a physician, as we understand the term today, but his treatise, published in 1797, "On the irritability of muscle and nervous fibres," and his work in connection with the science of botany, indicate his early training. He was born in Germany, September 14, 1769, and died May 6, 1859.

In the same park will be found a bronze bust, erected on a sandstone pedestal, of FRIEDRICH

VON SCHILLER. He was known as a poet, but he began his early life as a medical student under the direction of Prof. Abel, receiving the degree of M.D. from the Academy of Stuttgart in 1780. In November of the same year he was appointed an army surgeon, but in a short time resumed the life of a poet. He was born in Germany, November 10, 1759; died May 9, 1805. The centennial celebration of the death of Schiller was attended with considerable ceremony during three days of May, 1905. At this time a heroic bust, in plaster, of Schiller was on exhibition at Carnegie Hall, New York City, the sculptor being Henry Baerer. During the celebration the following badges were in use, composed of celluloid, surrounded by a gilt border:

Friedrich Schiller, face to the left.

Friedrich von Schiller. 100th Anniversary.  
Face to the left.

The centenary anniversary of the birth of Schiller was celebrated in New York in 1859. A copper medal with a bust of Schiller was struck on this occasion.

Conditions connected with, or circumstances surrounding, the death of an individual lead to various expressions of admiration, which sometimes take the form of things more enduring than words. This is particularly so in the case of DR. JOSEPH WARREN, a physician by profession, a soldier by force of circumstances. Dr. Warren received the degree of A.B. from Harvard in 1759, and A.M. in 1762, and studied medicine with Dr. James Lloyd, of Boston, Mass. The first memorial erected to Warren was through the efforts of King Solomon Lodge, F. & A. M., of Charlestown, Mass. Joseph Warren was a Past Grand Master of the State of Massachusetts, and a member of King Solomon Lodge. The memorial consisted of a Tuscan pillar eighteen feet in height, made of wood, and placed on a brick pedestal eight feet square and ten feet high. The front of the pedestal contained this inscription:

Erected A. D. MDCCXCIV. By King Solomon Lodge of Freemasons. In memory of Major-General Joseph Warren. Slain June 17, 1775.

This monument was dedicated December 2, 1794. The eulogy was pronounced by Dr. Joseph Bartlett.

A statue of Warren was inaugurated by the Bunker Hill Monument Association on June 17, 1857. It is seven feet high, of Italian marble, draped in the costume of the Revolutionary period, and rests upon a pedestal of marble. A bronze statue of General Joseph Warren is to be dedicated during the year 1905, and to be erected at Roxbury, Mass. The sculptor is Paul W. Bartlett. In 1868, a bronze door was placed in the Senate Chamber at the Capitol, in Washington, D.C. The upper right-hand panel represents the battle of Bunker Hill and death of Gen. Joseph Warren. Fort Warren, in honor of Gen. Warren, is situated on an island in Boston Harbor. It contains forty-three acres, nearly the whole of which is covered by fortifications.



DR. JOSEPH WARREN, Major-General U.S.A.

**BENJAMIN THOMPSON.** "Count Rumford." Born March 26, 1753, at Woburn, Mass., and died August 21, 1814, at Anteuil, France. He studied medicine with Dr. John Hay, of Woburn, Mass., and attended lectures at Harvard University Medical Department. His life was devoted to different departments of science; in 1778 he was elected a Fellow of the Royal Society, in 1785 of the Bavarian Academy of Sciences, in 1758 received the Order of St. Stanislaus from the King of Poland, in 1878 a member of the Berlin Academy of Sciences, in 1789 honorary member of the American Academy of Arts and

Sciences, in 1791 the Elector of Bavaria made him a Count of the Holy Roman Empire, and gave him the Order of the White Eagle. In 1796 he was made a member of the Royal Irish Academy and the Society for the Encouragement of Arts, in 1799 he founded the Royal Institution. The first Rumford Medal of the Royal Society, 1802. The second Rumford Medal of the Royal Society, 1831. These medals are for discoveries in heat or light. Rumford medal of the American Academy of Arts and Sciences, 1831. A bronze statue of Count Rumford stands in Maximilian street, Munich. The figure is ten feet high standing on a granite pedestal eleven feet. Erected in 1867 and modeled by Prof. Casper Zumbusch, of Munich.

Inscription on front of the pedestal:

Benjamin Thompson. Graf von Rumford.

Reverse:

CAT. Errichtet von Maximilian II., Koenig von Bayern.

On a scroll in the hand of Rumford:

Englische Garten Architecte.

**JEAN LOUIS RODOLPH AGASSIG.** Born May 28, 1807, in Switzerland, died December 14, 1873, at Cambridge, Mass. He received the following degrees: University of Erlangen, Ph.D., 1829; University of Munich, M.D., 1830; University of Edinburgh, LL.D., 1834; Dublin, 1835; Harvard, 1848; Regents of the University of the State of New York, M.D. Hon., 1847. In honor of Agassig: Lake Agassig—New York Zoological Park, New York City. Agassig Bridge—Back Bay Fens, Mass. Agassig Museum of Comparative Zoology—Cambridge, Mass. Louis Agassig Medal. Agassig Institute, Sacramento, California. Mount Agassig, of the Uinta range of mountains, Utah. The Agassig Clubhouse for Radcliffe girls in connection with Radcliffe College in honor of Elizabeth Cary Agassig, wife of Louis Agassig.

Memorial Pavilion, University Hospital, University of Pennsylvania; opened, 1896; in honor of **DAVID HAYES AGNEW**, born November 24, 1818; died March 22, 1892, Pennsylvania. University of Pennsylvania, M.D., 1838. Princeton, A.M., 1861; LL.D., 1876. The Agnew Surgical Society, Philadelphia, Pa.; founded, 1887.

**SAMUEL GLASGOW ARMOR.** Born in Washington County, Pa., January 29, 1818; died in Brooklyn, N. Y., October 27, 1885. Received from Franklyn College, A.M., 1840; Kemper Medical Medical College, M.D., 1844; Franklyn College,

LL.D., 1872. A memorial tablet in bronze with a medallion portrait, inscribed: 1818-1885. Prof. Samuel Glasgow Armor, M.D., LL.D., Dean of the Long Island College Hospital; was presented to the College by the Alumni Association at its annual meeting, March 19, 1894. The sculptor was J. Massey Rhind.

JACOB BIGELOW. Born in Massachusetts, February 27, 1787; died in Boston, Mass., January 10, 1879. Harvard University, A.B.; 1806, A.M.; University of Pennsylvania, M.D., 1810; Harvard University, LL.D., 1857; In January, 1873, the trustees of Mount Auburn Cemetery were instructed to procure a suitable testimonial in honor of the retiring President, Jacob Bigelow. After consultation a marble bust was decided upon to be placed in the Chapel of Mount Auburn. Henry Dexter, sculptor.

WARD NICHOLAS BOYLSTON. Born in Boston, Mass., November 22, 1749; died in Roxbury, Mass., January 7, 1828. He presented to Harvard University a valuable collection of medical and anatomical works and engravings in 1810.

Bronze medal of the W. N. Boylston School. "Medicine Founder." Head to the left. Boylston Medical School, "Incorporated," was organized in 1846 in Boston, Mass. It was an active school until 1856. Connected with the school were Drs. John Bacon, Chas. E. Buckingham, Edward H. Clark, Samuel Kneeland, John B. Walker, William Henry Thayer, John C. Dalton, Henry G. Clark, George H. Gray, and Henry W. Williams.

DANIEL GARRISON BRINTON. Born May 13, 1837, at Chester County, Pa.; died at Philadelphia, Pa., 1899. Yale University, A.B.; 1858, A.M.; Jefferson Medical College, M.D., 1861; LL.D., Jefferson in 1891; Sc.D., University of Pennsylvania. A medal was struck in his honor by the Neumismatic and Antiquarian Society of Philadelphia in 1899. Head to the left.

An effort is now being made to collect funds for a proposed mural tablet in memory of the late Albert B. Craig, M.D., of Philadelphia, Pa.

WILLIAM JOHNSON DALE. Born in Gloucester, Mass., September 5, 1815; graduated from Harvard University, A.B., 1837; A.M., 1840; Harvard University Medical Department, M.D., 1840; Assistant Surgeon U. S. A., June, 1861; Surgeon, December, 1861; Surgeon-General of Massachusetts, October, 1863. Dale's General Hospital, opened September, 1865; Worcester, Mass.

JOSEPH RODMAN DRAKE. Born in the city of New York, August, 1795; died in the city of his birth, September, 1820. It is intended to

honor him by naming a new park near his old home in the Bronx, "Drake Park." He is the author of "The Culpit Fay" and "The American Flag." Joseph R. Drake received the degree of M.D., from Queens College Medical Department, New York City in 1816.

WILLIAM HENRY DUDLEY was born in Ireland, October, 1811; died in Brooklyn, N. Y., October 9, 1886. Licensed by the Royal College of Surgeons, Dublin, and a Fellow of Kings College of Physicians and Surgeons, Jamaica, W. I. Received the degree of M.D. in 1842 from the College of Physicians and Surgeons, New York. The Dudley Gold Medal of the Long Island College Hospital is awarded for clinical medical work. Henry W. Maxwell made provision for a gold medal to be known as the Dudley Memorial Medal, to be awarded for clinical surgical work. The Dudley Memorial, in memory of William H. Dudley, M.D., erected by the estate of the late Henry W. Maxwell. Designed for a home for the Training School for Nurses in connection with the Long Island College Hospital.

WILLIAM ELIAS BROWNLEE DAVIS. Born, November 25, 1863, at Trussville, Ala.; died, February 24, 1902. Bellevue Hospital Medical College, M.D., 1884. The Southern Surgical and Gynecological Association erected a statue in the city of Birmingham, Ala., which was unveiled on December, 1904, in memory of William E. B. Davis, M.D. Inscription on monument: "In memory of William Elias B. Davis, Surgeon. Erected by the Southern Surgical and Gynecological Association, which he founded in 1887. Secretary, 1887-1901. President, 1902. He would have been known to the world as a patriot had he not been known as something greater—a physician." The statue is 8½ feet high and rests on a granite pedestal 9½ feet in height. It is located in a park in the city of Birmingham, Ala.

SAMUEL DAVID GROSS was born at Easton, Pa., July 8, 1805; died in Philadelphia, Pa., May 6, 1884. He received the degree of M.D. from Jefferson Medical College in 1828; D.C.L. from Oxford University in 1834; LL.D. from Jefferson College in 1861, University of Cambridge, 1880; Pennsylvania, 1883, and Edinburgh, 1884. A marble bust of Dr. Gross is in the hall of the College of Physicians of Philadelphia, Pa. A statue was unveiled at Washington, D.C., on May 5, 1897, in Smithsonian Park. The statue is of life size resting upon a pedestal supported by three steps. Inscribed in front:

Samuel D. Gross. "American Physicians have erected this statue to commemorate the

great deeds of a man who made such an impress upon American Surgery that it has served to dignify American Medicine." 1897. The Gross Medical College was established on April 9, 1887, and united with the Denver Medical Col-

CAT.



SAMUEL DAVID GROSS, M.D., LL.D., D.C.L.

lege, to form a part of the University of Denver, Colorado, on June 19, 1902. The college was named in honor of Samuel D. Gross, M.D., LL.D. Gross Medical Club, at Clarence, New York. Organized.

ASA GRAY. Born November 18, 1810, at Oneida, New York; died at Cambridge, Mass., on January 30, 1888. He was a physician and botanist, having studied medicine at the College of Physicians and Surgeons at Fairfield, N. Y., graduating M.D. in 1831; the degree of A.M. from Harvard in 1844; LL.D. from Hamilton College in 1860; Harvard in 1875; McGill University in 1884; University of Michigan in 1887; University of Edinburgh in 1887; Sc.D. from the University of Cambridge in 1887; D.C.L. from Oxford in 1887. A bronze medallion portrait of Asa Gray, by St. Gaudens, was presented to Harvard University in 1884. On his seventy-fifth birthday, November 18, 1885, a vase of silver, embossed with figures of the plants identified with his name or studies, was presented to him with a note of congratulation from one hundred and eighty American botanists. A special building, provided by Nathan Thayer in 1864, containing over four hundred thousand specimens, known as Gray's Herbarium of Har-

vard University. In the science of botany a few plants have been named in honor of our distinguished colleague—*Grayia-Polygaloides*, *Linium-Grayi*, and *Notholœna-Grayi*. Even in so conservative a place, in so far as physicians are concerned, as the New York Hall of Fame, which was dedicated May 31, 1901, we find one of the tablets bearing the following inscription: Asa Gray, 1810-1888.

I confidently expect that in the future, even more than in the past, faith in an order which is the basis of science will not be dissevered from faith in an ordainer, which is the basis of religion.

OLIVER WENDELL HOLMES. Born in Cambridge, Mass., August 29, 1809; died in Boston, Mass., October 7, 1894. He received from Harvard the degree of A.B. in 1829, and A.M. in 1889; from the Medical Department M.D. in 1836; Harvard University LL.D. in 1880; University of Cambridge Litt.D. 1886; Oxford D. C. L. 1886; Edinburgh LL.D. 1886. A bronze bust of Dr. Holmes, by Richard Brooks, is in the Boston Public Library.

JOSEPH HENRY was born on December 17, 1799, at Albany, N. Y., and died at Washington, D.C., on May 13, 1878. He studied medicine with Theodoric R. Beck, M.D., but gave his attention to chemistry and electricity. The degree of LL.D. was conferred upon him by Union College in 1829, College of South Carolina in 1838, University of the State of New York in 1850, and Harvard in 1851. A statue of bronze has been erected to his memory at Washington, D.C., in front of the Smithsonian Institute, on April 19, 1883. Also one at the World's Fair, held in 1904 at St. Louis, Mo. The erection of a memorial statue of Joseph Henry is now contemplated by the State of New York, at Albany, the place of his birth. Cape Joseph Henry, North Polar Regions, in honor of Dr. Henry.

JOSIAH GILBERT HOLLAND. Born July 24, 1819, at Belchertown, Mass; died October 12, 1881. Graduated from Berkshire Medical College, M.D., in 1844. Received the degree A.M. from Amherst College in 1851. Holland Monument in Peabody Cemetery. Eas-relief of Dr. J. G. Holland executed by St. Gaudens.

Horner Museum of Anatomy, University of Pennsylvania. WILLIAM E. HORNER. Born June 3, 1793, Virginia; died March 13, 1853. Pennsylvania, University of Pennsylvania, M.D., 1814.

JOHN T. HODGEN, M.D. Born, 1826, Kentucky; died in 1882, St. Louis, Mo. A bust of

Dr. Hodgen has been placed in one of the institutions of St. Louis.

CORNELIUS NEVIUS HOAGLAND. Born November 23, 1828, at Neshanic, N. J.; died in Brooklyn, N. Y., April 24, 1898. Received the degree of M.D. from the Western Reserve University in 1852. The Hoagland Laboratory on Henry Street, Brooklyn, N. Y., was opened October 1, 1888. A bronze tablet of the late Dr. Hoagland has been placed on the outside of the laboratory, bearing a profile of the doctor and the following inscription:

"Founder of the Hoagland Laboratory in 1887, the first laboratory in the United States erected, equipped and endowed by private means for the sole purpose of bacteriological research. His benefactions and noble charities have raised for him a monument more enduring than bronze. Born 1828; died 1898. J. S. Hartley, Sculptor, 1899."

ISAAC ISRAEL HAYES. Born in Chester County, Pa., March 5, 1832; died in New York City, December 17, 1881. University of Pennsylvania, Medical Department, M.D., 1853. Gold medal, Royal Geographical Society, 1867. Gold Medal, Societe Geographie, 1869. In honor of Dr. Hayes: Hayes Sound, Hayes Peninsular, North Polar Regions; Cape Hayes, most north-easterly point of Hudson's Island.

SAMUEL HAHNEMANN, M.D. Monument erected in Washington, D.C., June 21, 1900, consisting of a statue of bronze. The foundation and superstructure are built of granite, four panels of bronze, representing four periods of Hahnemann's life. Christian Frederick Samuel Hahnemann. Born April 11, 1755, in Germany; died July 2, 1843, in Paris. Graduated M.D. at Erlangen in 1779.

ELISHA KENT KANE. Born February 3, 1820, at Philadelphia, Pa.; died February 16, 1857, at Havana, Cuba. University of Pennsylvania, Medical Department, M.D., 1842. Medals in honor of Dr. Kane: Gold medal of the Royal Geographical Society, 1856; gold medal of the Societe de Geographie, 1857. Medal, Dr. E. A. Kane, Commander of the Grinnell Arctic Expedition, May 30, 1853. Bronze and white metal. Medal, Masonic, Dr. Elisha Kent Kane, The Great Arctic Navigator, U. S. N., 1859. Bronze and white metal. Presented with a sword by the citizens of Philadelphia, Pa., February 8, 1849. Kane medal, for Natural Science. Awarded by the Normal College of the City of New York. Named in honor of Dr. Kane: Kane Basin and

Cape Kane, North Polar Region. Kane Sea and Kane Channel divides Hudson's Island from Lok's Land. Dr. Kane was a member of Franklin Lodge, No. 34, F. & A. M., Philadelphia, Pa. Kane Lodge, No. 454, F. & A. M., New York City, N. Y., and Kane Lodge, No. 55, F. & A. M., Newark, N. J., are named in his honor.

ALFRED LEBBENS LOOMIS. Born in Bennington, Va., October 16, 1831; died in New York City, January 23, 1895. Union College, A.B., 1851; A.M., 1856. College of Physicians and Surgeons, New York City, M.D., in 1852. University of the City of New York, LL.D., in 1882. Loomis Laboratory in New York City, organized in 1888, at 414 E. 26th Street, for medical research. The Loomis Sanatorium was established in 1894 as a memorial to the late Alfred L. Loomis for the treatment of tuberculous diseases. Situated at Liberty, N.Y. Bust of Dr. Loomis in one of the institutions of New York.

JESSE WILLIAM LAZEAR. Johns Hopkins University, A.B., 1889. College of Physicians, New York, M.D., 1892. A memorial tablet was unveiled October 5, 1904, at Johns Hopkins Hospital in memory of Dr. Lazear. He died of yellow fever while investigating that disease on the Government Commission at Quemados, Cuba, by permitting himself to be infected and contaminated by mosquitoes.

EPHRAIM McDOWELL. Known as the father of ovariectomy. Born November 11, 1771, in Rockbridge County, Virginia. Died June 25, 1830, at Danville, Kentucky. He received the honorary degree of M.D. from the University of Maryland in 1825. Licensed by the Philadelphia Medical Society in 1807. On May 14, 1879, during the session of the Kentucky State Medical Society, a monument was dedicated to the memory of Ephraim McDowell at Danville. It is a shaft made of Virginia granite, in the center a bronze medallion of McDowell, beneath his monogram, with the motto, "A grateful profession reveres his memory and treasures his example;" on the opposite side, "Erected by the Kentucky State Medical Society, 1879." On the east side, "Beneath this shaft rests Ephraim McDowell, M.D., the Father of Ovariectomy, who, by originating a great surgical operation, became a benefactor of his race, known and honored throughout the civilized world." On the west side, "Born in Rockbridge County, Virginia, 1771; attended the University of Edinburgh, 1793; located at Danville, Ky., 1795;

performed the first ovariectomy, 1809; died 1830." The monument is located in the center of the City of Danville, in a public park. The seal of the Southern Surgical and Gynecological Society bears a profile of Ephraim McDowell.

**WILLIAM OSLER.** Born July 12, 1849, at Tecumseh, Ontario, Canada. McGill University, M.D., 1872. University of Edinburgh, Aberdeen, McGill and Yale, LL.D. University of Oxford, M.D., 1905. On March 4, 1905, the Charaka Club of New York City presented to each of its guests at the dinner tendered to Dr. Osler a bronze medallion bearing a profile on one side of William Osler, with the inscription on the back, "The Charaka Club to Dr. William Osler, Medico illustri, literarum cultori, socio gratissimo, March 4, 1905."

**WILLARD PARKER.** Born in Hillsboro, N. H., and died in New York City. Harvard University, A.B., 1826; A.M., 1830; Berkshire Medical College, M.D., 1831; College of New Jersey, LL.D., 1870. Willard Parker Hospital, foot of East 16th street, New York City, for contagious diseases, was erected and named in his honor.

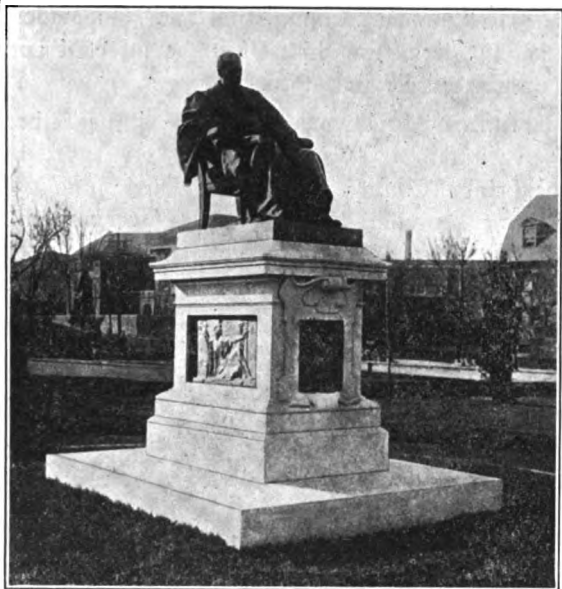
**WILLIAM PEPPER.** Born in the city of Philadelphia, Pa., on August 21, 1843, and died at Pleasanton, Cal., on July 28, 1898. The degree

Pennsylvania on his retirement as provost, June 7, 1894. The Pepper Clinical Laboratory, as a memorial to his father, was formally opened December 4, 1895. A bronze statue was unveiled December 20, 1899, in memory of William Pepper, amid the University buildings. The tablet on pedestal is inscribed as follows:

"As provost he established the following University departments: The Wharton School of Finance, the University Library and Economy, the Biological Department, the Graduate Department for Women, the Department of Philosophy, the Department of Hygiene, the Veterinary Department, the Department of Architecture, the Training School for Nurses, the Wistar Institute of Anatomy and Biology, the Department of Public Education, the William Pepper Laboratory of Clinical Medicine, the Department of Archaeology and Palæontology. The following public institutions were his creation: The Free Library of Philadelphia, the Free Museum of Science and Art, the Philadelphia Museum. You and I must pass away but these things will last."

The King of Sweden made him a Knight Commander of the Order of St. Olaf, July 10, 1877. William Pepper Hall of the Arts and Sciences, University of Pennsylvania, dedicated December 20, 1899.

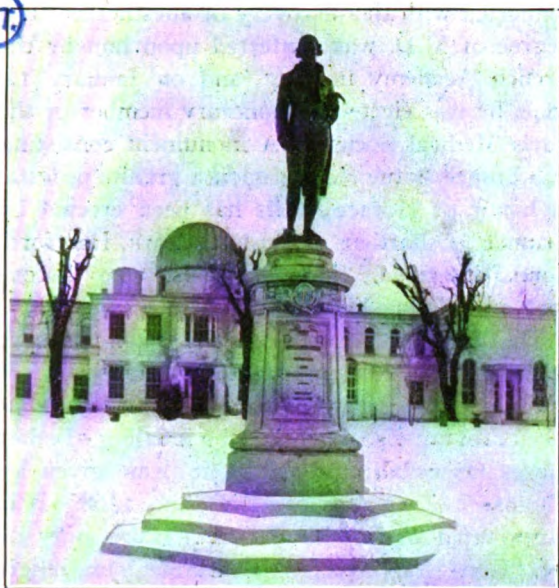
**BENJAMIN RUSH** was born in Philadelphia, Pa., December 24, 1745, and died in the same city on April 19, 1813. He received the degree of A.B. from the College of New Jersey in 1760, and A.M. from the same college. University of Edinburgh, M.D. in 1768; Connecticut Medical Society, M.D., Hon., 1794, and Yale University, LL.D. in 1812. A monument was unveiled at Washington, D. C., on June 11, 1904, in memory of Dr. Rush. The statue of bronze resting on a pedestal of Indiana limestone and situated opposite the U. S. Naval Museum of Hygiene. Upon the panel in front is inscribed: "Dr. Benjamin Rush, Physician and Philanthropist, 1745-1813." Of the other panels one bears the crossed swords, a wreath and the inscription: "Signer of the Declaration of Independence;" another bears a scroll, a pen, and a wreath; inscription, "First American Alienist;" the remaining panel bears the Caduceus and the inscription: "*Studium sine calomo somnum.*" The Rush Hospital for Consumptives and Allied Diseases, Philadelphia, Pa.; established, 1890. Two medals of Dr. Rush in bronze, bust to the left, date, 1808, are in the collection of the Boston Medical Library. Rush Medical College, chartered February, 1837, by the



WILLIAM PEPPER, M.D., LL.D.

of A.B. was received from the University of Pennsylvania in 1862, and A.M. in 1865; that of M.D. from the Medical Department of the same institution in 1864. Lafayette College conferred the degree of LL.D. in 1881. A bronze bust of Dr. Pepper was presented to the University of





BENJAMIN RUSH, M.D., LL.D.

State of Illinois; in 1898 it became the medical department of the University of Chicago.

**BENJAMIN SILLIMAN.** Born August 8, 1779, in Conn., died November 13, 1864, at New Haven, Conn. Yale University, A.B., 1796; A.M., 1799; Bowdoin College, A.M., 1818; M.D., 1818; Middlebury College, LL.D., 1826. Statue erected of bronze and situated in the grounds of Yale University, New Haven, Conn., in 1884. Front inscription on pedestal: "Benjamin Silliman. Professor of Natural Sciences. Yale College. From 1802-1858. Born, Aug. 8, 1779. Died, Nov. 14, 1864."

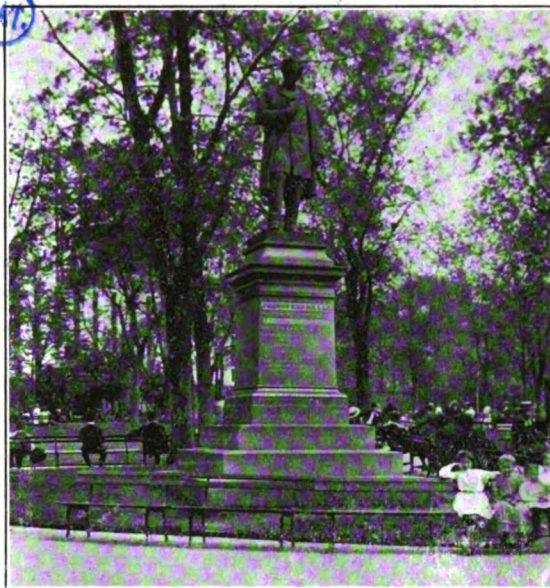
**JOHN SWINBURNE.** Born in Denmark, N. Y., May 30, 1820; died at Albany, N. Y., March 28, 1889. Albany Medical College, M.D., 1847.



BENJAMIN SILLIMAN, A.M., M.D., LL.D.

Swinburn Island, so named by an act of the legislature in 1872. Situated  $3\frac{1}{2}$  miles below the Narrows. The Hospital for Contagious Diseases is situated on this island, and all suspects are transferred to this island to await development of disease.

**JAMES MARION SIMS.** Born January 25, 1813, at Lancaster District, South Carolina; died in New York City, November 13, 1883. Received the degree of A.B. from the South Carolina College in 1832, that of M.D. from Jefferson Medical College in 1835, and LL.D. from Williams College in 1874. Marion Sims College of Medicine, organized in 1890, at St. Louis, Mo., in 1901, it became a part of the St. Louis University. A marble bust of J. Marion Sims is now in the Library of the Medical Society of the County of



JAMES MARION SIMS, M.D., LL.D.

Kings, presented by the family of the late Alex. J. C. Skene, M.D., LL.D. A statue of J. Marion Sims, by Meyer of Munich, erected in Bryant Park, New York City, and unveiled October 20, 1894. The statue is of bronze resting upon a granite pedestal. Inscription in front: J. Marion Sims, M.D., LL.D. Born in South Carolina, 1813. Died in New York City, 1883. Surgeon and Philanthropist. Founder of the Woman's Hospital, State of New York. His brilliant achievement carried the fame of American surgery throughout the civilized world. In recognition of his services in the cause of science and mankind he received the highest honors in the gift of his countrymen, and decorations from the governments of France, Portugal, Spain, Belgium and Italy. Inscription of back of pedestal:

"Presented to the City of New York by his

professional friends, loving patients, and many admirers throughout the world. Dr. Sims received the following decorations: Knight of the Legion of Honor, France; Knight of the Order of Leopold I., Belgium; Iron Cross of Germany; two medals from the Italian Government; decorations from the Spanish and Portuguese Governments. The seal of the Marion Sims College of Medicine bears a face view of J. Marion Sims.

ALEXANDER JOHNSTON CHALMERS SKENE. Born in Aberdeen, Scotland, June 17, 1838, and died at Highmount, N. Y., July 4, 1900. He received the degree of M.D. from the Long Island College Hospital in 1863, and LL.D. from the University of Aberdeen in 1897. In memory of Dr. Alex. J. C. Skene, library at Griffins Corners, N. Y. Building erected by Andrew Carnegie, 1901. Peabody brothers subscribed \$50,000 to establish a room, to be known as the Skene Memorial Operating Amphitheatre, in the Long Island College Hospital in 1901. Skene memorial library fund. To assist in completing the stack-room of the Medical Society, County of Kings, by the Alumni of the Long Island College Hospital. Amount, \$480, year 1902. Bed endowed in the President Street Sanitarium by Mrs. Henry K. Sheldon in 1902. Amount, \$1,000. Memorial window to Dr. A. J. C. Skene, St. Paul's P. E. Church, Flatbush, March, 1902. Inscribed, "To the glory of God and in loving memory of Alex. J. C. Skene, M.D., LL.D." Tablet in memory of Alex. J. C. Skene, M.D., LL.D., Building of the Medical Society, County of Kings. Memorial to Alex. J. C. Skene, M.D., LL.D., amount \$5,000, to the Library of the Medical Society, County of Kings, 1904. Monument in memory of Alex. J. C. Skene, M.D., LL.D., Prospect Park Circle.

LEWIS ATTERBURY STIMSON. Born in Pater-son, N. J., 1844. Yale University, A.B., 1863. Bellevue Hospital Medical College, M.D., 1874. Yale University, LL.D., 1900. Stimson Hall, Cornell Medical College, Ithaca, N. Y., in honor of Lewis A. Stimson, M.D., LL.D. A gift of the late Dean Sage, 1902.

CASPAR WISTAR. Born in Philadelphia, Pa., September 13, 1761; died in the same city, January 18, 1818. Philadelphia College of Medicine, M.D., 1784. University of Edinburgh, M.D., 1786. Wistaria vine named in honor of Dr. Caspar Wistar. Wistar Institute of Anatomy, University of Pennsylvania.

HORACE WELLS. Born in the State of Vermont, January 21, 1815, and died in New York on January 24, 1848. His name is intimately

connected with the discovery of anesthesia. The degree of M.D. was conferred upon him by the French Academy in 1847, and on January 12, 1848, he was elected an honorary member of the Paris Medical Society. A monument consisting of a bronze statue resting upon a granite pedestal in honor of Horace Wells has been erected by Truman H. Bartlett, at Bushnell Park, Hartford, Conn., inscribed, "Horace Wells, who discovered anesthesia, November, 1844."

The Ether monument in the public square (Gardens) at Boston, Mass., is composed of granite and red marble and is intended to commemorate the discovery that the inhaling of ether causes insensibility to pain. It was given by Thomas Lee, and dedicated in June, 1868. It is surmounted by figures illustrating the story of the "Good Samaritan," the marble base reliefs representing a surgical operation, a patient under the influence of ether, Angel of Mercy descending to relieve suffering humanity, a field hospital with a wounded soldier in the hands of a surgeon, and an allegory of the triumph of Science. The monument is the work of J. Q. A. Ward.

The Warren Anatomical Museum, Harvard. Founded by JOHN COLLINS WARREN. Born August 1, 1778, died May 4, 1856, Boston, Mass. Harvard University, A.B., 1797; A.M. and M.D., 1819.

A bust of Dr. John C. Warren made in 1838 by Horatio Greenough and placed in the lecture room of Harvard Medical College.

Wood Pathological Museum of Bellevue Hospital. Founded 1857. JAMES R. WOOD. Born September 14, 1813, died May 4, 1882, New York. Castleton Medical College, M.D., 1834; Geneva College LL.D.

Library of the New York Academy of Medicine. A marble bust of DAVID HOSACK, M.D., F.R.S. Six inches high, resting on a round pedestal; presented by Mrs. William H. Draper. The main hall of the Academy is called Hosack Hall.

Bronze medal in the writer's collection, DAVID HOSACK, M.D. Head to the right. 1769-1837. Arts and Sciences.

Marble bust of T. SPENCER WELLS, Bärt., M.D. Born 1818, died 1897. England.

Marble bust of HORACE GREEN, M.D., LL.D. Died November 29, 1866. Age, 63 years.

Marble bust of WILLIAM T. WHITE, M.D. Born July 27, 1829, died September 17, 1893. New York City.

Marble bust REUBEN D. MUSSEY, M.D., LL.D.

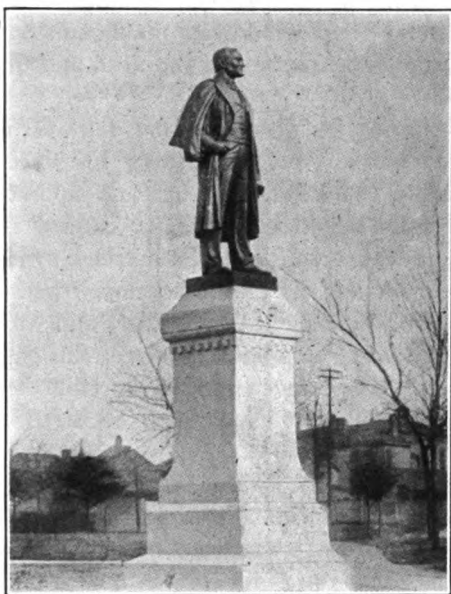
Born June 23, 1780, died June 8, 1866. Boston, Mass.

Library of the Medical Society County of Kings. Marble bust of J. MARION SIMS M.D., LL.D. Born January 25, 1813.

Plaster bust of FORDYCE BARKER, A.M., M.D., LL.D. Born May 21, 1817; died May 30, 1891, New York City.

Marble bust of THOMAS KEITH, M.D. Born May 20, 1827; died October 9, 1895, Scotland.

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WILLIAM ELIAS BROWNLIE DAVIS, M.D.

*Medals:* VALENTINE MOTT, M.D., LL.D., head to the right. Reverse: University of New York, Medical Department. Founded in 1856.

NATHAN SMITH DAVIS, A.M., M.D., LL.D., head to the right. Reverse: American Medical Association. 1846.

JOSEPH PANCOAST, M.D., Prof. Anatomy, Jefferson Medical College.

*Medical Colleges:* Harvey Medical College, incorporated in 1891, Chicago, Ill.

Jenner Medical College, organized in 1892, Chicago, Ill.

WILLIAM JAMES MACNEVEN, M.D. Born in Ireland, March 21, 1763 and died in New York City, July 12, 1841. University of Vienna, M.D., 1784. Monument in St. Paul's Churchyard, New York City Square, about thirty-five feet high, brown stone with a granite base, with a medallion profile in bronze of Dr. Macneven in front. Dr. Macneven was Professor of Midwifery, Chemistry and Materia Medica in the College of Physicians and Surgeons, New York, from 1808 to 1826 and Professor of Materia Medica and Therapeutics in Rutgers Medical College, 1826-1830.

The front inscription reads as follows: "Who in the cause of his native land sacrificed the bright prospects of his youth, and passed years in poverty and exile, till, in America, he found a country, which he loved as truly as he did the land of his birth."

To the service of this country which had received him as a son, he devoted his high scientific acquirements with eminent ability.

THOMAS ADDIS EMMET. Born April 24, 1764, Cork, Ireland; died in New York City, November 14, 1827. University of Edinburg, M.D., 1784; admitted to the Irish bar at Dublin in 1791; New York bar in 1804; Attorney General of the State of New York, 1812. A monument of white marble, surmounted with a bust of Thomas Addis Emmet, M.D., was erected in the court room where he was seized with his fatal illness. Monument in St. Paul's Churchyard New York City. An obelisk of white marble, about thirty-five feet in height, on the front near the top is a medallion in bronze of Dr. Emmet in bas-relief. Below the following inscription: "In memory of Thomas Addis Emmet, who exemplified in his conduct, and adorned by his integrity, the policy and principles of the United Irishman. To forward a brotherhood of affection, a community of rights, an identity of interests, and a union of power among Irishmen of every religious persuasion, as the only means of Ireland's chief good, an impartial and adequate representation in an Irish parliament. For this (mysterious fate of virtue) exiled from his native land, in America the land of freedom, he found a second country, which paid his love, by reverencing his genius. Learned in our laws and the laws of Europe, in the literature of our times, and in that of antiquity, all knowledge seemed subject to his use. An orator of the first order: clear, copious, fervid, alike powerful to kindle the imagination, touch the affections, and sway the reason and the will; simple in his tastes, unassuming in his manners, frank, generous, kindhearted and honorable; his private life was beautiful, as his public career was brilliant; anxious to perpetuate the name and example of such a man, alike illustrious by his genius, his virtues, and his fate, consecrated to their affections by his pupils, his sacrifices and the deeper calamities of his kindred, in a just and holy cause: his sympathizing countrymen erected this monument and cenotaph."

HUGH MERCER. Born in Aberdeen, Scotland, in 1720, wounded at the battle of Princeton, and died January 12, 1777. He was a physician and assistant surgeon at the battle of Cullodan, on



the side of the Pretender, and came to America in 1747. He was a captain in the French and Indian wars, and a brigadier-general in the Revolutionary War.

Fort Mercer, a strong work on the New Jersey shore of the Delaware, was named in his honor.

#### HEAD INJURIES IN CHILDREN.\*

BY WM. A. NORTHRIDGE, M.D.,

In the short time at my disposal this evening, I can but touch upon some of the most important points of this most interesting subject, as they relate to the pediatricist in his every-day work.

Young children are constantly falling. The number of falls, the distance fallen, the force with which they fall, and the general severity of these accidents at times, appals one.

Of course, in the vast majority of cases nothing comes of these injuries.

I am writing principally to impress all of us with the necessity of being fully alive to the possible grave danger which may arise from even the slightest fall.

The amount of injury done depends upon what structures the greater part of the force is expended. In certain cases, indeed, in the vast majority of the cases, the injury is entirely external, and an ocular demonstration may be had of it.

In other cases the larger part of the force is transmitted either directly or by *contre coup* to the delicate structures within the skull, and grave lesions occur. The following case sent to me by Doctor Dickinson illustrates this point perfectly. A little girl, three years of age, had fallen, striking her right temporal region. At the time of the accident she had suffered an incised wound at the point of impact, which the doctor stitched up and which healed kindly. She had no other symptoms except complete aphasia, for which the doctor sent her to me.

This was a case where the force had been expended but partially upon the external surface, and the rest had been transmitted through to the centres of speech in the brain and had there been expended. She recovered after over a year's treatment, learning to talk word by word, very slowly. Her speech is now perfect. Here we undoubtedly had laceration, localized hemorrhage, compression and slow absorption.

A child may fall a great many times and with force and yet not sustain anything more serious than transient hurts; again simply a fall to the ground from the feet may prove most disastrous.

In my experience falls backward striking the occiput and blows upon the back of the head are apt to be serious.

Five years ago, a boy four years old, fell out of a third story window to the stones in the yard below. I attended him directly, found him suffering moderately from shock which passed away in twenty-four hours. The next day he was somewhat stiff, but that passed promptly, and he remains well to this day. Another boy, three years old, fell a much shorter distance, from the second-story front window to the stone stoop below, sustained a fracture of the skull and died in 48 hours.

Yet another boy, 30 months old, fell over backwards from his tricycle, striking his knee and presumably his head, although no appreciable injury could be discovered after careful search at the time, except the well-marked synovitis. On the fifth day the child developed persistent emesis which lasted thirty-six hours and was evidently cerebral. Tonic general convulsions followed and lasted seven hours, the child becoming deeply comatose, and death occurred. An autopsy could not be obtained, but the cause of death was undoubtedly the brain lesion.

Children are more apt to recover from tremendous injuries to the head than adults owing to the fact that the brain in the child is but partially developed. The younger the subject the more putty-like the brain. Nature should be given full chance in these cases, and surgical interference should not be resorted to until absolutely necessary; for the recuperative powers of the young are great.

Owen reports a case where the side of the skull of a child had been deeply indentated by the kick of a horse, and where complete recovery was made without interference.

A case occurred in my practice. A girl baby, 14 months old, was thrown from a baby carriage, striking on her head. Except a concussion, there was no sign of injury externally. She had strong general convulsions daily; some days a great many, for over six months, yet she recovered completely in a year's time.

Among the first injuries to which the head is liable may be mentioned pressure effects from prolonged labor; falls to the floor on to head in precipitate labor and injuries from maladroit use of the forceps. While the forceps skillfully applied in certain difficult cases, would do far less harm than prolonged labor, if they did any harm; unskillful instrumentation; the force applied out of the axis of the pelvis; the kind where the obstetrician sits

\* Read before the Section on Pediatrics, May 24, 1905.

on the floor, puts his foot on the side of the bed and pulls against the pubic bone until something gives way; frequently causes grave injuries to the skull, its contents or both. Osler reports nine cases of paralysis following forceps delivery, and I presume there is not a man present who has not seen similar cases. Besides the above, the common conditions and injuries to the head following the aforementioned, are fracture, hemorrhage, idiocy, face and scalp wounds, laceration, impaired cerebral development, epilepsy, cephalhaematoma, caput succedaneum and echymoses.

Careless mothers and nursemaids and missile-throwing boys are responsible in many cases of head injury. Some of the worst cases are caused by falls from perambulators, buildings, beds, roller skates and tricycles. Falling backwards to sidewalk is a common and peculiarly dangerous accident. Falling down-stairs, tripping over obstructions on the floor, colliding against articles of furniture are common occurrences and not on the whole so dangerous.

A little girl was brought into me on the sixteenth of this month. She had been struck upon the head with a stone thrown by a boy. The occiput and the skull to the right of it, was contused; but she complained bitterly of a severe headache, could not collect her thoughts, and had considerable vertigo. Under treatment by May 19th, the headache and vertigo had disappeared, and the pupils which had been contracted were responding. Her mother brought her in yesterday, and I found the pupils normal and the other symptoms had not returned. I ordered her mother to keep her from school, to take her down to the country and have her live quietly. I hope she has fully recovered.

In May, 1902, I saw an interesting case with Doctor Neilsen. A little girl, seven years of age, had fallen from a picket fence to the ground, striking the head in the occipital region. The only ocular demonstration of injury was a contusion over that region. She lay unconscious for five days, when she gradually improved and made a complete recovery. There was no paralysis whatsoever. At this writing the doctor informs me that the child is a large, healthy, well-developed girl.

On the 15th of the present month a girl baby, twenty months old, was brought to me with the history of having fallen from a swing on April 30, 1905, striking the left temporal region and suffering a contusion as the external manifestation.

She was sleepless, had temperature of  $102^{\circ}$ , and appeared to have severe pains in the head. She had had two general convulsions and was extremely restless. Her pupils were irregular and sluggish. Her mother was instructed to place the child in a cool, dark, quiet room, and to give her cream and whey alone for nourishment. Chloral, bromide and fluid Dover's powder were given as a sedative, mustard baths ordered night and morning. May 17th, child much better. Treatment continued. May 19th, much more restless, some screaming, pupils still sluggish. Dose of sedatives and brain anemics increased, other treatment continued. May 22d: The baby appears perfectly well. Temperature normal, eyes normal, no screaming; sleep natural, and she appears to be free from pain. The trouble is, no man can say that this baby is surely past all danger, although she probably is.

This mother was very anxious about this baby, because, as she informed me, she had lost a child eight years ago by a fall on the back of its head from a stoop. She states that the child was paralyzed, screamed a great deal, had convulsions, became unconscious and died four days after the accident. She states that her sister had lost two children by falls on the head.

In these cases, of course, the main danger is that the delicate structures of the brain may be injured. We may have present concussion, compression, congestion, laceration, irritation, meningitis, traumatic encephalitis or intra-cranial supuration.

Often two or more of these conditions are present in the same case, and this fact often renders the clinical picture, which is presented, quite complex.

Symptoms of concussion are most commonly found after not only blows or falls upon the head, but also at times after falls upon the feet or buttocks. There is commonly present in these cases emesis, faintness, depression, pale face, confusion of ideas and speech and contracted pupils, or at least some of these symptoms.

Sometimes the patient is unconscious for a longer or shorter period. All cases where the patient is unconscious, even for a short time, are serious.

Where concussion alone occurs, a few children die of it. The majority promptly recover, and the rest suffer for a time, recovering more slowly.

In the slight cases, the child is weak, giddy, confused, often falls asleep to awake well or very much improved. The patient should not be awakened or disturbed when thus asleep.

There is a condition found in many of these cases where the circulation of the brain is so disturbed that intense headache occurs, eliciting high piercing screams and simulating the cry of meningitis. These cases are quite amenable to treatment when no true inflammation is present.

In the more serious cases where there is pressure upon the brain, we find paralysis, fever, full, slow pulse, stertorous respiration and dilated or irregular pupils. Sometimes, as the symptoms of concussion disappear, the symptoms of compression come to the front. Occasionally we see nystagmus, gyrospasm, strabismus and muscular twitchings.

Generally, in head injuries, are seen externally cuts, contusions, abrasions, swellings and more or less dirt, if the case be recent, and discolorations of the skin if the injury be more remote: all pointing to the fact that force has been expended upon the part.

In cases where laceration, hemorrhage, serum, pus or fracture are present we generally get pressure symptoms.

In cases where traumatic encephalitis is present we get the signs of brain inflammation familiar to all of us. Where the inflammation is subacute it may be many weeks before it appears. The following case of traumatic encephalitis I attended last July. A little girl, five years old, fell out of bed striking her head. She suffered no appreciable external injury, but her temperature ran up to 104°, and she complained of excruciating headache, her pupils were irregularly contracted, she could not stand the light, she was sleepless and most of the time delirious and extremely restless. On the fifth day she developed hemiplegia; she became gradually more and more unconscious and died on the eleventh day, comatose.

Exact, full diagnosis of brain injuries is sometimes difficult or impossible owing to the fact that the symptoms of one condition run into, overlap or hide the symptoms of another which may be also present.

As to the exact cause of pressure symptoms, it is sometimes hard to decide. Compression may arise from depressed bone, pus, blood or foreign body.

If abscess of the brain supervene the chances of recovery are small.

Pyæmia is generally fatal and accounts for the abscesses of lungs or liver which are seen in these cases.

In cases of coma and compression the question of the prompt relief of the pressure is a serious one.

Aseptic surgery has made it easier, and the trephine and elevator may be used, provided the situation of the foreign body can be discovered. In the majority of cases death follows.

Rest in a cool, dark, quiet room is the best treatment in head injuries. A great many of them will clear up without other therapeutic measures. The ice cap is of value where there is inflammation.

All excitement must be avoided. As Jacoby puts it: there must be "absolute protection against external disturbances."

Brain anæmics are far and away the best medicaments to use in these cases. Chloral and the bromides are easily the best.

The bowels should be well moved. Calomel holds ancient prestige.

Chloroform should be used in case of convulsions.

The mustard bath, 3*ii* of mustard to each gallon of water for babies, is of value.

The period of time in which injuries manifest themselves varies greatly. No patient is absolutely safe until one year after a severe head injury.

Severe lesions of the brain are occasionally attended for a time by slight symptoms only.

Finally, let us remember to teach parents the necessity of guarding the young against falls as much as possible, because of the serious character often assumed by falls upon the head.

Let us remember the axiom of Hippocrates, "that no injury to the head is too trivial to be despised or too serious to be despaired of."

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#### THE CHOICE OF A UTERINE HEMOSTATIC.\*

BY CARROLL CHASE, M.D.

The subject will be considered from a general standpoint, no attempt being made to take up each cause and variety of uterine hemorrhage and the treatment therefor. The scope of the article does not include any operative procedure, even such mild ones as tamponade or strapping of extremities, nor does it include postural methods of treatment. The paper naturally divides itself into two general parts: Uterine hemostasis by systemic remedies, and hemostasis by local applications.

The first attempt to stop uterine hemorrhage is many times made by giving medicine by mouth or hypodermically; and frequently (and occasionally much to our surprise) the effort is successful, and local or operative treatment avoided.

\* Read June 2, 1905, before the Brooklyn Gynecological Society.

Just here let me state, as emphatically as I may, that I always strongly insist on careful local examination before treating irregular, and perhaps but slight, hemorrhages occurring between the ages of forty and fifty, especially if there is pain or slight watery or offensive discharge; for I most thoroughly believe that the time uterine carcinoma is curable is during its incipency, and that the way to discover these cases is to watch for them, and warn patients that slight symptoms at this stage of life should not be thought of too lightly.

Uterine hemostatics given internally act in various ways, though principally in two—by producing vasomotor contraction throughout the body and hence in the uterine blood vessels as well, or by causing contraction of the uterine muscular tissue, thus to a certain extent cutting off the blood supply. There are remedies used, such as gelatine, by injection, which increase the coagulability of the blood, but these are of minor importance. It is nearly impossible to classify the remedies this way for consideration because many have complex action, or the authorities disagree as to the exact physiological effect.

There are three or four drugs used for this purpose which stand out as particularly useful, to wit: Ergot, hydrastinin (not hydrastin), cotarnine hydrochlorate (named stypticin for sake of brevity by its discoverer, Freund, of Frankfurt-on-Main), and adrenalin. The indications for and actions of ergot are so well known that I will pass it with the statement that it is without doubt the most useful of all remedies of this class. Its action is both vasomotor and oxytocic. When ergot is to be given for any length of time I much prefer as a preparation, ergotin (Bonjean) in chocolate coated tablets.

It is of stypticin and hydrastinin that I wish to speak in particular. Both are artificial alkaloids, the first made by the oxidation of narcotin, an alkaloid making up from 1% to 10% of opium. The clinical formula  $C_{12}H_{13}NO_3H_2O$  is remarkably like that of hydrastinin  $C_{11}H_{11}NO_2H_2O$ . The latter drug is formed from hydrastin (the white alkaloid of *hydrastis canadensis*) by a similar process of oxidation. As would naturally be expected, the action of the two is similar, the chief difference being that while both are cardiac stimulants stypticin acts very similarly to digitalis, slowing the heart and increasing arterial tension, while hydrastinin acts more as does camphor or ether. Hydrastinin acts quickly, while stypticin has a slower but more prolonged effect. Both are oxytocic. A study of the con-

stantly growing literature on these two drugs shows that they frequently have a remarkable power to stop various forms of uterine hemorrhage. The consensus of opinion seems to be that they are most valuable in (first) menorrhagia, especially of young and other nulliparæ; (second) climacteric hemorrhages not due to malignant disease; (third) metorrhagia due to shock, or following operative procedures such as curettage, and (fourth) frequently in the hemorrhage following miscarriage. Some report excellent results in uterine myomata or fibromata, but I have had little personal experience with these drugs in these last named conditions.

My most gratifying experiences have been with cases of hemorrhage following abortion, where a curettage seemed inevitable, but where (sometimes at the patient's suggestion, because of fear of operation) I tried in every way to avoid the operation. Just one case as an example. Mrs. X., aged 37, mother of four children at term, had an abortion at about seven weeks. Cause not determined. She had no medical attendance at the time, trusting nature to see her through. There had been a steady and rather abundant flow for over two weeks when I saw her, and she was fast becoming exsanguinated and weak. Several years previous she had had a similar experience, followed by curettage. Either because of her existing condition or because she was infected at the time of the operation (she believes because of the latter), she had become septic and had been in bed some months. Because of this she greatly feared another operation. I gave ergot for two days in fairly large doses, without result. I then used hydrastinin,  $\frac{1}{8}$  gr., and stypticin,  $\frac{3}{4}$  grs., in combination every two or three hours. The result was as gratifying as prompt. In three days the hemorrhage had ceased entirely, and the patient has been in good health since. This occurred about two years ago. I have had similar experiences since, these drugs, without doubt, several times having saved recourse to operation.

About the only objection to these two drugs that I know of is their expensiveness, stypticin costing the druggist \$6.25 per ounce, and hydrastinin from \$15.20 to \$52.00 per ounce. But a prescription as follows:

R Hydrastinin hydrochlorat .....gr. i.  
Stypticin .....gr. vi.  
Syrup. Rub. Idæ .....3 ii.  
Elix. Simplic .....q. s. 3 i.

costs the druggist about 25 cents and should re-



tail for 40 to 60 cents, allowing the druggist a fair profit. If a prompt action is necessary, either alkaloid may be given hypodermically. I like to use the two together because one acts quickly and the other more permanently, and because one will occasionally act when the other will not.

Another drug that has received much favorable mention given internally for uterine hemorrhage, but with which I have had no personal experience, is adrenalin. Its action is due to powerful vasomotor contraction.

Although there are numerous other drugs used for this purpose, I wish to mention but two more. One is *ustilago maydis*, or corn ergot, which is said to have a somewhat different action from ordinary ergot in that the uterine contractions are less tonic and more clonic or intermittent than are those caused by the ergot of rye. The other remedy is mistletoe, which has a somewhat similar action. These two, while undoubtedly of value in hemorrhage, are of more value given in small doses to increase labor pains.

Local hemostatics, generally speaking, act in one of two ways, either directly on the muscular coat of the blood vessels, or by coagulating the blood in the vessels and the albuminous fluids around them.

Those most commonly used locally for their action directly on the vessels are cold water, hot water, from 110° to 125° F., dilute acids, alum, or other aluminum salts, in solution, hamamelis, and most powerful of all preparations of the suprarenal gland. Cold or hot sterile water douches—the simplest of all these remedies—are often very efficacious. It should be remembered that cold water should not be used for any length of time because the reaction that comes quickly with prolonged use dilates the vessels and the good effect is lost. Hot douches may be used with less danger of reaction. They should be large, several gallons if necessary, and the temperature may at first be but 110° F., gradually increasing, if necessary, to 120° or 125° F.

Dilute acids—especially acetic—are of great value. I prefer this acid in a 37% dilution (half the strength of the dilute acid of the U. S. P.). I have repeatedly seen it produce effect in the hemorrhage following curettage after hot intra-uterine douches have failed. Hamamelis has met with favor by some, but other remedies are much superior.

Within recent years the preparations of the suprarenal gland—best represented by the active principle adrenalin—have been brought before

the medical profession in a most forceful manner, and the results reported make it seem sure that a most active and useful vasomotor constrictant has been discovered. The gynecologist has not been slow to grasp its advantages. Theoretically it should be of the utmost value in any uterine hemorrhage that could be stopped by the action of a vasomotor constrictant. It would be of little value in the hemorrhage from uterine carcinoma where the new low-grade tissue lacks blood vessels with walls thick enough to respond to stimulation. Its greatest disadvantages are the danger of absorption of any large amount, and—as is true of all of this class—danger of reaction. Other local hemostatics acting by vasomotor contraction have been used, but those above mentioned seem the most valuable.

The number of drugs that act by coagulation of the blood in the vessels and the albuminous fluids around the vessels is numerous, and perhaps those most used are as follows: Tannic acid and drugs that depend upon it for their action (such as *krameria*, *kino*, *hematoxylin*, and to a certain extent *hamamelis*), and the solutions of salts of the various metals as silver, zinc, aluminum, and most important of all of this class, preparations of iron. It will be noted that some in this class—notably alum and *hamamelis*—were mentioned as acting directly as vasomotor stimulants. It seems probable that they act to a certain extent by both methods.

Tannic acid, if used, is preferable in solution alone, rather than as one of the drugs which depend upon it for its action. But tannic acid, alum (or one of the simpler aluminum salts, as aluminum acetate) and other metallic salts, are much inferior in value to iron, which is perhaps best represented by liquor ferri subsulphatis, or Monsel's solution. This preparation, used pure or diluted with from one to four volumes of water, is a most eligible and efficient uterine hemostatic. White (author of a well-known work on *materia medica*) goes so far as to say it is the most valuable of all local astringents. It is of particular value in checking hemorrhage from carcinoma. One great advantage of this class is absence of reaction, but to offset this there is the disadvantage of the formation of clots, more or less tough, that unless thoroughly removed, make excellent culture media for bacteria.

To briefly summarize: For a systemic uterine hemostatic, ergot is the main reliance, but hydrastinin and stypticin are of great value and will make unnecessary a certain number of operations. They should be used much more commonly than

at present. Adrenalin is a powerful vasomotor constrictant and should not be forgotten. For a local hemostatic the simple remedy of hot intra-uterine douches may be first used and followed, if not successful, by a 3% dilution of acetic acid. If the cervix is patulous and clots may be easily removed, liquor ferri subsulphatis is of great value. This preparation is also of particular value in the bleeding from carcinoma, and whenever a remedy without reaction is required. Where the surface of the endometrium is not large, adrenalin solution, the most powerful of all vasomotor stimulants, may act when all other means have failed.

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### SERUM THERAPY.\*

BY EDWARD G. HYNES, M.D.

The progress of scientific study and research during the last quarter of a century has been made memorable by what increased knowledge with application and practical skill have done for surgery; by what Roentgen and his wondrous rays have seen and taught; by what Finsen and his light have done; by what Monsieur and Madame Curie with radium have accomplished, and by many other notable therapeutic discoveries.

It is with some hesitation that I have ventured under the title of Serum Therapy to wander somewhat backward for a moment and review this subject, which it seems to me has done far more to alleviate and lessen human suffering, more to protect the individual and to preserve life than any other branch of therapeutics. The value of serum therapy, tested now by years of experience and use, extends not only into the domain of medical but also of surgical conditions, and to-day as we look forward into the future, the outlook for blood-serum therapy and antitoxin looms up with an ever-increasing and more promising aspect.

In the preparation of this paper I have made use of Krieger's book on "Blood Serum Therapy and Antitoxins," articles by Park, Schauffler, Schmidt, and others.

So much experimental work has been and is being done in the department of bacteriology and its relation to toxins and antitoxins that it would require a knowledge far more extensive than mine and a paper of greater length than the following to even epitomize the subject of serum

therapy as it stands to-day in relation to smallpox, diphtheria, tetanus, rabies, cholera, dysentery, plague, yellow fever, scarlet fever, pneumonia, pyemia, septicemia, erysipelas, typhoid, snake-bite, and more recently, rheumatism and exophthalmic goitre.

In writing, then, on this subject which naturally embraces that of antitoxins, I have thought it well to first to consider it as to a definition, and what we understand when we use the term, then, for a moment to examine its history, and finally to close by viewing serum therapy as it applies to the different infectious diseases of to-day.

The fundamental principle of all serum diagnosis and serum therapy is the blood. When we speak of this therapy of blood serum we understand that the serum of the blood of an animal organism which has been rendered immune is capable and has it in its power, if injected into another living body, to protect the latter against disease, or to cure it if already infected with disease. It is this condition of immunity on which serum therapy rests as well, too, on the bactericide property of the human blood. Immunity is defined as that condition of the body wherein it resists the development of morbid processes. This immunity may be one of two kinds: It may be congenital or active, with which every individual is born, or it may be acquired or passive immunity as that conferred by the introduction of antitoxins or vaccines. Active or congenital immunity is that property found in certain of the white blood cells or leucocytes, which are called phagocytes. To-night, however, we are concerned only with the acquired immunity as found in the subject of serum therapy and antitoxins.

In the strict sense of the word the therapy of blood serum is not a new discovery of the last twenty-five years, but it has been during that time that it has assumed its greatest growth and risen to the prominent position it occupies to-day as a therapeutic agent. The birth of serum therapy was announced to the world when Edward Jenner, an English physician, in the year 1796 established the practice of inoculation with vaccine, or the virus of cowpox, as a preventive of smallpox. This practice was called vaccination, and in its broad sense it meant the inoculation or introduction into the body of the virus of a specific disease. The Standard Dictionary defines vaccination as "inoculation with the attenuated or modified virus of a disease to produce a mild form of it and so prevent a virulent attack; specifically and originally inoculation with cowpox

\*Read before the Alumni Association of St. Mary's Hospital Jan. 1905.

as a preventive of smallpox." Earlier than the days of Jenner it is said to have been practiced from time to time in other countries than England, and as early as 1713 and again in 1765 we are told attention had been called to the wonderful properties of vaccine. But it was left for Jenner, at that time a young man associated with a surgeon at Bristol, England, to notice that many of the people of the surrounding districts and neighboring country in which he was practicing, who acquired cowpox while milking cows, seemed to escape the dreaded disease known as variola or smallpox. It was in 1768 that he first noticed this, and during the thirty years following he made a thorough and exhaustive study, and after these long years of labor and observation, when he was no longer an assistant to the surgeon at Bristol, but a man well on in years himself, he confided to his friend, Dr. Gardiner, the long-cherished hope that in cowpox he had discovered the protection against smallpox. Shortly after this he published his first article on the subject, entitled "An Inquiry Into the Causes and Effects of the Variolæ Vaccinæ, a Disease Discovered in Some of the Western Counties of England, Particularly Gloucestershire, and Known by the Name of Cowpox." The first vaccination was made by him in 1796, 109 years ago, and it was four years later, in 1800, that the practice was first introduced into the United States. The New England States were the first to make use of it, and a few months later Thomas Jefferson, at that time President, urged its adoption in the south.

I have gone rather at length into the history of vaccination, because with its introduction in 1796 really begins the history of all serum therapy. The discovery proved that the blood serum of one animal, the cow in this case, could protect by its inoculation a like disease in man. The debt the human race owes to this painstaking and observing student is immeasurably great, and it is only when we stop for a moment and realize the wonderful good vaccination has accomplished, and the lives without number that it has saved, that we place the credit where it rightly belongs, beside the name of Edward Jenner.

Under the stringency of the vaccination laws in vogue at the present time the mortality from smallpox has decreased to a minimum. The number of public vaccinations performed every year, besides those done in the private practice of physicians, is estimated at 30,000,000. Here in our own country, surprising to say, the proportion of vaccination to births is smaller than in each of the European countries of Scotland,

Holland, Germany, Austria, Japan and England. As to what vaccination has accomplished in the way of statistics, we find that for the twenty-four years before it was introduced into Sweden (which was in 1801) there were 2,050 victims annually out of each million of the population, and since its introduction in the worst epidemics it has averaged 158 a year to the million. Here in our own country epidemics of it were frequent in the early history of the colonies, and in 1620 it appeared both among the whites and Indians in Massachusetts. Again, too, in 1631, 1633, 1639, 1677, 1678, 1702 and in 1721 out of 5,989 cases of smallpox in Boston there were 850 deaths. In 1730, with only a population of 15,000, Boston again had another outbreak, and 500 out of 4,000 died. Again, in 1751, out of 7,653 cases there were 545 deaths.

I quote these figures merely to show you the high mortality during these epidemics in Boston before the days of vaccination. After the year 1800, when Dr. Waterhouse, of Cambridge, introduced vaccination, the percentage of deaths became appreciably less. Boston, from 1811 to 1820, had six deaths, from 1821 to 1830 there were eight deaths, and from 1891 to 1900 there were 32 deaths.

Comparing the percentage of deaths in our greatest epidemics since vaccination was introduced, with the percentage of deaths in the lightest epidemic before the time of vaccination, we find it is much less now and is less than three to every thousand of our population. The protective power of vaccination is again shown when we compare the records of the vaccinated and those who have not been vaccinated. In France from 1816 to 1841 the death rate among the unvaccinated was 16.1%, among the vaccinated it was 1%. In the London Smallpox Hospital, from 1836 to 1856, the mortality among the unvaccinated was 35%, and among the vaccinated it was 7%. In the Vienna Hospital, from 1837 to 1856, among the unvaccinated it was 30%, and among the vaccinated it was 5%. In lower Austria during the year 1835 it was 25% among the unvaccinated and 1% among the vaccinated, and without quoting further figures, it has been computed that the mortality during outbreaks of smallpox is from five to seven times greater among the unvaccinated than among the vaccinated.

Alfred C. Smith, in the *Medical Record* of April, 1904, reports treating smallpox successfully with antistreptococcus serum. Under this treatment he claims the disease runs a shorter

and a milder course, no pitting follows afterwards, and all symptoms are far less aggravated. He concludes his paper by regretting the fact that the profession "is so slow to give the patients the benefits of these life and suffering saving means that science has placed at its disposal."

Again, too, in Glasgow during a recent epidemic, cases were treated with a serum obtained from immunized heifers. The results, however, were not very encouraging.

The story of vaccination during the many years since 1796 has been one long successful prophylactic onslaught on smallpox. True, it has been interrupted now and then by epidemics, but it does not require a great amount of thought nor the recital of further statistics to prove its wonderful results or to testify to the lessened mortality it has brought about. To-day we find it universally accepted as a protective agent in all our large cities and towns throughout the world, where because of dirt and overcrowded conditions outbreaks of this dreaded disease are more apt to take place. In these cities we find the Departments of Health not only countenancing its use but making it compulsory among the school children, tenement house population and factory employees.

England to-day has its compulsory vaccination laws; Italy supports fourteen vaccination stations for its poor at Rome, Venice, Milan, Genoa and other cities. Norway made it obligatory in 1811. Austria, Roumania, Turkey and Greece assume the right, if they so desire, to vaccinate all those unvaccinated. Holland, like Italy, supports vaccination stations for its poor though not making the operation compulsory. Germany compels it; so, too, does Denmark, and so, too, does Japan since 1874. We meet with physicians at times who look with sort of doubt and skepticism on its practice, but fortunately we come across them but rarely.

Vaccination, then, was the first great triumph of serum therapy, and it certainly has proven a worthy precursor for the others that have followed since. Years elapsed before serum therapy was again brought forth as a therapeutic agent, but as time proved, they were not all idle years, for stimulated by Jenner's example and what he had accomplished, other investigators were working along the same lines of thought, and at last their labors were crowned with success.

#### DIPHTHERIA.

A writer once said, and it is certainly true, "that by far the greatest interest shown by the

medical world, as well as by the laity, to those discoveries and experimental results in blood serum therapy relates to the subject of Diphtheria."

From the time of the early Greeks, from that period in the world's history which we call the "Homeric," an affection of the throat had been noticed and frequently described by Galen and others. Outbreaks of it had occurred in Switzerland and along the Rhine, and in 1821 Brettoneau, a Frenchman, published his first essay on the subject and gave to the disease its present name—diphtheria.

It was Klebs, in 1883, who first demonstrated the presence of bacilli in this membrane, but it was Loeffler who, a year later, in 1884, not only showed the presence of the bacilli but produced by inoculation a like membrane in susceptible animals. Even before the time of Klebs-Loeffler bacilli it had been noted that one attack of diphtheria was seldom, if ever, followed by another in the same person within a short time. This being so, the thought suggested itself that perhaps by its infection an antitoxin was formed in the blood which protected against further infection of the disease at least for a time. The object, then, of the investigators working on the subject was to find a serum treatment which would be protective at all times and curative when required. The names of Fraenkel, Behring, Ehrlich and Wernicke are all closely linked in the history of diphtheria with those of Klebs, Loeffler and Brettoneau. Pre-eminent among those who made a study of the toxin of diphtheria in search of its antitoxin was Behring, who showed that the blood of immune animals contains a substance which neutralizes and renders inert the diphtheria toxin.

What this antitoxin has done to not only protect and prevent from an attack but likewise to cure it, is a story familiar to all of us. Since the general introduction of antitoxin in 1894 and 1895 a marked change has taken place in the death rate. Previous to that time the mortality ranged from 25% to 40%. In Massachusetts, from 1891 to 1894 it was 28.3%, but from 1895 to 1891 it had decreased to 13.1%, and in 1891 it had decreased still further to 10%. These figures mean, so the Massachusetts Board of Health states, that 10,967 lives have been saved in seven years. In general the mortality is said to be reduced from 45% to 16%.

Osler gives the following: The mortality in Berlin in 1894 was 39%, after the introduction of antitoxin it was only 2.1% in 1,390 cases.

The mortality of Baginsky's clinic in Berlin for four years before antitoxin was introduced was 41.1%. During the four years after it was introduced the mortality in 525 cases was 15.81%.

The Chicago Health Department in one of its late reports says of antitoxin: "Since the introduction of antitoxin in the treatment and prevention of diphtheria its mortality rate has been reduced by almost one-half, that is from an annual average of 625 in every 10,000 of the population in the seven years before its use, 1889 to 1895, to an annual average of 324 in the seven years, 1896 to 1902, of antitoxin treatment.

During 1902 the New York Health Department furnished free antitoxin to 15,792 cases. Of this number 1,860 died, a mortality of 11.8%. Of the number who died 722 were already moribund when injected, which really reduces the death rate to 7.5%. Of 1,702 injected on the first day, only 85 died, a mortality of 4%.

This, then, was the second victory won by serum therapy, and a greater one in some ways than even vaccination. Here in antitoxin we find the cure as well as the prophylaxis. The general application of this remedy to diphtheritic conditions, while not being made compulsory, as in the case of smallpox, has been so extensive throughout the world as to give silent though convincing testimony to the efficacy of Behring's serum and its wonderful therapeutic value. Severe as the disease is, and high as the mortality remains, we have reached a stage in the treatment of this condition when we no longer have the same dread of it we had years ago. As I said, the mortality has not yet been reduced to the minimum, but it is as near that desired goal as time will permit. There are times, too, it is true, when antitoxin responds better in one case than in another, but this seeming lack of benefit is often due to a tardy and delayed administration, when the toxins have already so weakened the heart and general organism as to preclude the possibility of recovery. Or, again, if used early in the disease with little benefit, the case is likely one of mixed infection of the streptococcic and Klebs-Loeffler bacilli, and the presence of the former we are told both stimulates the effect of the bacilli and adds to the infection its own deteriorating properties.

Intubations and tracheotomy, good as they are, are no longer the necessary implements they were of old, and the membrane now appearing first on the tonsils does not have the same tendency to spread downward to the larynx it did before antitoxin.

Dr. Francis Quinlan, of New York, said some time ago at the New York State Medical Association meeting in Buffalo, "that since the introduction of antitoxine the danger from diphtheria has been reduced to almost a minimum." Before antitoxin was discovered, in one year he did 116 intubations. Shortly after that, he says, the general use of antitoxin took its place. At the same meeting Everard T. Ferguson, of Troy, said that before the introduction of antitoxin he had had 75 intubations without a single recovery. After antitoxin he treated successfully five cases of primary laryngeal diphtheria.

#### TETANUS.

About the same time as Klebs and Loeffler were making their discovery, two other scientists were examining into the causes of tetanus, and in 1884 Carle and Rattone came forth with a proof that tetanus was an infectious disease by inoculating a rabbit with the pus taken from a case and producing a like disease. A short time after this a Dr. Nicolaier, who was engaged in examining the germs of the soil, remarked that he often found a bacillus like unto that of Carle and Rattone, and he observed that by inoculating guinea pigs with this soil it caused spasms and death. The infectious nature of the disease having been established, naturally stimulated the desire to find something which would be antagonistic to the toxins formed, or, in other words, to discover an antitoxin which would have the same tendency as diphtheria antitoxin and nullify the effects of the poisonous products of the tetanus bacilli. The name of Kitasato is associated largely with this study, who was most zealous, not so much to find an antitoxin to kill the microbes as one which would paralyze and render inert their poison.

The first case of tetanus treated with antitoxin was in 1891, under the attendance of an Italian physician, a Dr. Gagliardi, of Mollinelli, and the antitoxin used was prepared by Tizzoni and Cattani, two investigators who had been most industrious in its study. A brief report of that first case may not be out of place here. The patient, a man 45 years old, had been cut on the foot May 11, 1891, was seen by Dr. Gagliardi the next day, the wound was dressed antiseptically with carbolic, and on May 16th it was healed. May 19th symptoms of trismus developed, which became marked by May 24th. By June 3d opisthotonos and all the other symptoms of tetanus were marked, and 0.25 centimetres of Tizzoni's

antitoxin, which had been obtained from a dog, was injected, and this was followed by slight improvement. In a day or so symptoms became marked again and two injections were made. The patient did well after this and was discharged cured July 5th. Less than one cubic centimetre of antitoxin had been required to neutralize the poisonous effects of the toxins. In December of the same year, 1891, the second case was reported favorable after antitoxin, and since then antitoxin has been generally used in all our hospitals and in the private practice of many physicians with relatively good results. Not without some mortality, it is true, but with a much lower one than was the case before Tizzoni and Cattani made their now famous discovery. According to the statistics of Reckter of 717 cases, and the records of another writer who has collected 2,072 cases, the mortality was 88% before antitoxin, and now has been reduced to 20%. Grieger remarks that "A therapy which can cause such a decrease in mortality is certainly wonderful and ought to be cheerfully welcomed, especially by those who have occasionally to witness the agony brought on by this disastrous malady.

At the present time the departments of health of many of our cities, as in New York, are preparing antitoxin, but it is Behring's serum that is used mostly. The subarachnoid method of injection, while still largely in use, has been superseded somewhat by the intracerebral, because it is generally held now that the antitoxin has a more powerful and quicker influence when brought into direct contact with the nerve centers. Not to appear too optimistic, it is but fair to quote from an article by Edward W. Schauffler, who has recorded 233 cases of intracerebral injections, with 96 recoveries and 137 deaths, a mortality of 58.7%. In the same article he advises restricting the intracerebral method and using more frequently the subarachnoid and subcutaneous. At a recent congress of surgery in Paris a Lyons surgeon reported 373 cases, with 145 deaths, a mortality of 39%. High as this death rate is, it is small when compared to the days before antitoxin, when we are told it varied between 70% and 90%. Another report by Cabot, of Boston, gives the mortality with Behring's serum of 52.7%, and with Tizzoni's serum in 88 cases a mortality of 36.3%. Though less brilliant by far than diphtheritic antitoxin, we cannot but admit that it has accomplished much more than any other known remedy for the disease. It is only fourteen years since it was

first introduced, so that we must not be disappointed should it fail at times, but let us be thankful for what it has already done and look to the future expecting greater results.

#### DYSENTERY.

Long before the time of Hippocrates dysentery was one of the best known diseases, but it was around 430 B. C. that it was first described by him and the difference between it and diarrhea were pointed out. But in spite of its long years of recognition and the great amount of literature written on the subject, besides long and diligent inquiry as to its cause, it remained for the Japanese Shiga in 1897 to first isolate and describe the bacillus which seemed to have all the requirements to act as a causative agent. Up to this period the ameba was always looked upon as the responsible cause. Shiga discovered his bacillus then in 1897 in an epidemic in Japan, when there were 22,300 deaths, out of 89,400 cases, or a mortality of 24%. In 36 cases he found the bacillus in the intestinal contents, in the walls of the intestine and in the mesenteric glands. Flexner substantiated Shiga's claim in his study of dysentery in the Philippines in 1899. So, too, did Storey and Musgrave, working under the Surgeon General of the United States Army, in their study of 1,328 cases in Manila for one year. As to the serum therapy of the disease, there is now being used in Manila and Japan an antitoxin prepared from the bacilli of Shiga by Kitasato, and in its results they claim it is second only to the serum used in diphtheria. While definite results are wanting and no statistics are obtainable, we are told "that enough work has been done in this country to make it evident that the outlook is not at all unpromising." Dr. William H. Park, in his paper read before the New York County Medical Association, May 18, 1903, spoke at some length as to serum therapy in this disease. He was not over-enthusiastic, and reported fifteen cases in which up to that time the serum had been used in New York, and while the results were not marked, he thought that possibly this might be due to a mixed infection. He said further that Shiga claimed that when the serum was used early the symptoms abated so promptly as to leave no doubt as to its wonderful efficacy. Let us hope that this claim of Shiga's may prove true.

#### HYDROPHOBIA.

With the subject of rabies or hydrophobia there are no names more prominently identified

than those of Pasteur and Gibier. To their untiring efforts and study we are indebted for the antihydrophobia serum, and though we are still working in the dark as to the particular micro-organism responsible for this disease, our results thus far with serum therapy treatment have been uniformly good and encouraging. In order that the result be good it is necessary that the Pasteur treatment be begun immediately; that is, during the stage of incubation. The object in this treatment is the rapid production of immunity in the patient as early as possible, because it has been shown that immediately after infection the poison is present in the brain, spinal cord, nerve trunks and saliva. The prognosis with serum therapy and hydrophobia is uniformly good if immunity can be established before the period of incubation. The Pasteur Institute, from 1886 to 1894, treated 13,817 persons who had been bitten by supposedly rabid animals. Out of this large number the mortality was only 0.5%. Compare this mortality of 0.5% with the mortality of 60 to 80% without the Pasteur serum treatment, and not only must we conclude that in the case of hydrophobia serum therapy has been most successful, but that Pasteur and his associates have reduced the mortality to a surprisingly low figure.

#### CHOLERA.

This disease of the gastrointestinal tract, endemic in certain portions of India, and epidemic in other countries, from time to time has at all times been most fatal in its results. Koch proved it to be infectious, and its spirillum is known as the *Spirillum* of Koch or *Spirillum Cholerae Asiaticæ*. It was in 1884, when diphtheria antitoxin was being prepared and the tetanus bacilli were first being described, that Ferran, a Spanish physician, read a paper before the Academy of Barcelona on July 16th relative to the inoculation against cholera. During the following year 1885, when cholera was epidemic throughout Spain, he used an anticholera serum on 25,000 cases. This was the first attempt at serum therapy with this disease, but unfortunately the results were hardly equal to his claims and expectations. It was a beginning though, and since then, through his example, others have been encouraged to take up the work with the results at times no better than his. Metschnikoff in 1893 published his results. Haffkine, between 1893 and 1895, subjected 40,000 people in India to his prophylactic treatment, and his results were good, being entirely preventive and not curative. These injections of Haffkine had not been of an antitoxic

substance but merely graduated cultures of moderate virulence, and to-day it is but little in use. His records, though, for that time were quite encouraging. In one town of 340 uninoculated forty-five got cholera and thirty-nine died, of 181 inoculated only four contracted the disease, and they died. Of eighteen people living in one house eleven were inoculated, and no cholera developed in any of them; of the seven who were not inoculated four contracted the disease and three died. As to a curative serum, there is none, and the best we can claim to-day is the serum therapy of Haffkine as a prophylaxis.

#### TYPHOID FEVER.

At the present time another disease that we hope may respond to serum therapy is that caused by the bacillus first described by Koch, Gaffky and Eberth, and known as typhoid fever. The use of the antityphoid serum up to the present time has been so limited that we are hardly in a position to state just what its future promises. Chantemesse is quoted in the *Journal of the American Medical Association* as having treated 514 cases with the serum, and having a mortality of twenty-two deaths or 4%. The mortality from typhoid in fourteen other hospitals at Paris at the same time with 3,199 cases was 581 or 18%. Serum treatment has been practised to quite a large extent among the British troops in India and South Africa. The sera used have at times been obtained from horses and from convalescent cases. In the *British Medical Journal*, 1901, Wright reports that among 2,669 uninoculated and 720 inoculated soldiers sixty-eight of the former and only one of the latter who were inoculated contracted typhoid. In diphtheria the more severe the case the larger the dose, whereas in typhoid, the worse the case the weaker the strength of the serum used. Again, in the *British Medical Journal* of January 11, 1902, there is a report of 947 cases not previously inoculated with a mortality 14.25%, and of 203 cases, all of whom had been inoculated from six to eighteen months before with a mortality of 6.8%. Osler quotes E. Fraenkel as having had fairly good results in fifty-seven cases treated with serum, and says that the fever is more remittant and defervescence takes place sooner, sometimes by crisis instead of as ordinarily by lysis. Osler also says that Lambert claims to have found benefit in fifteen out of twenty-eight cases. From observations made by Josias in the Paris hospitals for children, from March 1, 1902, to March 1, 1903, the mortality without serum treatment was



14.2%. At the Brettonean Hospital, where the serum was used, the mortality was only 4%. Just now we must withhold judgment because the reports and statistics as to its use are not sufficiently numerous, and the future alone can tell us what the results will be.

#### SCARLET FEVER.

As yet we are entirely ignorant as to what the contagion of scarlet fever is, but in spite of this enthusiasts are ready to go ahead, and since 1896 serum therapy has from time to time been suggested and tried. Its results are scarcely more definite than those of typhoid. The serum has been used at irregular times during the past summer and fall in some of our city contagious hospitals, and in speaking recently with one of the internes, he told me the only result noted was that the disease seemed to run a more rapid course, and that the rash and desquamation seemed at times to disappear sooner than in the cases where it was not used. No statistics were kept, and the results were altogether uncertain and indefinite, and it is seldom resorted to now. Serum, as a rule, is now prepared from the streptococcus found in the organs of scarlet patients. This appearance of the streptococcus with scarlet has sort of revived the subject of serum treatment lately, and Baginsky, of Berlin, who claims priority in the discovery of the association of the streptococcus with the as yet unknown scarlet germ, has full confidence in the antiscarlet system which has been prepared by Aronson. Moser, who has also prepared a serum, reports 84 cases. Seventeen of these 84 cases were mild, and there was no mortality. Sixty-two of the 84 cases were severe and apparently hopeless, but 46 of that number recovered and 16 died. The dose was from 30 to 180 c.c. In the *Medical News* of October 29, 1904, Henry L. K. Shaw says that during the past four years all severe cases of scarlet fever at the Annakinderspital in Vienna have received the Moser antiscarlet serum with no less surprising results than seen with the diphtheria serum. This, as we said, is an antistreptococcic serum, and Moser claims that in the blood taken from the heart immediately after death he has shown the presence of the streptococcus in 63 out of 99 examinations. I remark this merely parenthetically because his statement seems to carry with it the evidence of the proof of the association of the streptococcus with the germs of scarlet if there is any other causative factor. Shaw's statement is certainly favorable to the use of the serum. In a few hours after its

inoculation the temperature drops to normal, there are no signs of collapse, the pulse becomes slower and of better quality, and the symptoms of any toxemia which may have existed disappear, sequelæ and complications are less frequent, and when they do occur are less severe. The mortality for four years before its use was 14.5%, in the last four years at the Annakinderspital in Vienna it has been only 8%. In the same four years in the other hospitals of Vienna where the serum was not used the mortality was 13.1%.

#### PYEMIA AND SEPTICEMIA.

The results of antistreptococcus serum injections in cases of pyemia and septicemia, while not at all times of the best, have been in many cases most marked and beneficial. It is in this connection that serum therapy has exerted its influence in the line of surgery. Packard and Wilson collected 117 cases treated from 1900 to 1902, and of this number 114 showed signs of improvement or fully recovered. They make the following statement: "All of these reports tend to convince us of the fact that antistreptococcus serum will at least do no harm, and that in cases in which the streptococcus alone is involved it will eliminate that micro-organism and control the symptoms caused by its toxin unless used too late for any remedy to be of avail. G. H. Sherman in the *American Medicine*, October 17, 1903, reports good results from antistreptococcus serum in erysepelas, particularly when given early. In pyemic and septicemic conditions it is peculiar to note that the serum apparently does wonders in one case, and again in another case presenting similar symptoms it has but little if any effect. Bacteriology has not as yet, we are told, discovered all of the many forms of this coccus, and it is because of this that the serum may be fatal in one case to the toxins and in the other indifferent or lacking in its results. In the London *Lancet* of July 16, 1904, T. J. Horder says, "that the ideal serum for the treatment of any particular patient suffering from streptococcus infection must be one obtained by the use of the organism actually causing the disease in that patient, for this serum can alone be guaranteed to be specifically associated with the causal agent of the disease."

#### SYPHILIS.

De Listo claims to have treated one hundred cases of syphilis with the serum, but the results could not have been much, as the report is indefinite and uncertain.

## PLAGUE.

The credit of isolating the bacillus of plague is again due to the Japanese Kitasato, who, in 1894, during an outbreak of the disease in Hong Kong, made his successful investigations. Almost coincidentally with Kitasato Yersin and Roux discovered the same micro-organism. Serum therapy has again come to the front here with quite wonderful results, both from the use of Haffkine's prophylactic serum and Yersin's anti-pest serum. All authorities are one in agreeing that both sera are of great value. Wyman lays much stress on the lines that must be drawn between a serum for preventing, or prophylaxis, and one that is curative, and he says the prophylactic may not have the least beneficial effect when once infection has taken place. He concludes by saying that "for bubonic plague there is but one accredited remedy, and that is the anti-pest serum of Yersin and Roux." A French commission which has examined into the Yersin-Roux anti-pest serum reports that the results are incontestible. The mortality among cases treated with it was 14%, and among those not treated with it it was 70%. The results of Haffkine's prophylactic serum in Bombay have been good. At one time 8,142 persons were injected; only 18 contracted the disease and two died. At another time 4,926 people were inoculated, 45 contracted the disease and 15 died, while among 3,387 of those who were inoculated the second time only two became infected. During this same period, among those who refused to be inoculated the death rate varied between 667 and 1,000 every week. Lord Curzon, the Viceroy of India, has remarked "that a measure which changes the death rate of from 70 to 80% into one of 15 to 20%, even in those who are attacked after submitting to it, to say nothing of the large proportion who are completely protected by it, is one which no sensible person can afford to neglect." Major Charles B. Ewing, of the United States Army, in the *Medical Record* of April 4, 1903, in an article on the plague in India and the Philippines, after speaking encouragingly about the Haffkine prophylactic serum, says that the value of the Yersin-Roux serum, aside from the claims of its discoverers, is incontestible. In one epidemic in India, he says the mortality was reduced from 70 to 14%. There is a third serum, which has been used with good results, though not so extensively. This is the Lustig anti-pest serum. Haffkine reports that the difference in the mortality of

those inoculated and those not inoculated is from 80 to 90%. The record then of serum therapy in relation to plague is more than an encouraging one. Its use since it was first introduced in 1894 (eleven years ago) has changed a mortality formerly 80% into one that is now from 15 to 20%. Antitoxin has certainly in this instance accomplished wonderful results.

## TUBERCULOSIS.

At the International Medical Congress held in Berlin in 1900, Koch first described the serum known as tuberculin. As a means of diagnosis, particularly among cattle, it is largely employed at the present day, and at times it has been used for this purpose in man. In certain early cases of tuberculosis, and when used most judiciously, it has exerted a curative effect, but Councilman concludes his article on the subject by stating that "it is a very dangerous agent when considered as a general remedy for the disease." Osler says that its use had been in great part abandoned. Modifications of it, he adds, are under trial by several trustworthy investigators, whose results may justify its adoption in suitable cases. In one of the German medical papers Freymouth advises the use of tuberculin as a means of diagnosis. He concludes his article by stating that there is no doubt that when used properly tuberculin is the best test yet devised for the diagnosis of tubercular trouble. Most of the literature is rather opposed to its use. It often reacts in cases which on autopsy show no lesion—it fails at times in well marked cases, and there is no positive proof that it will not react when some other trouble is present.

## YELLOW FEVER.

As regards yellow fever, very little can be said, except that a French commission claims to have immunized individuals with a yellow fever serum, saying it was both prophylactic and curative.

## EXOPHTHALMIC GOITRE.

The serum treatment of this condition merits nothing more than a passing mention. The serum used is one obtained from thyroidectomized sheep.

## RHEUMATISM.

One of the French journals, speaking of the discovery of Menzer of a curative serum for the treatment of articular rheumatism, adds that it seems full of promise. Menzer is at work on the theory that this condition is the result of a streptococcus infection. Sherman, in the *American Medicine*, October, 1903, reports having treated

inflammatory rheumatism for some time with antistreptococcus serum with good results. In one of the German journals Schmidt reports fifteen cases of rheumatism, some of which responded fairly well to serum treatment even after all other remedies had failed. Of these fifteen six showed marked improvement, four were doubtful, and in five there was no change. Schmidt's conclusions are that the serum is not a specific one in the same sense as diphtheria antitoxin, but we must admit it produces favorable results in many cases.

Attempts from time to time have been made to produce an antipneumococcic serum with results, however, which up to date have not been very encouraging.

As to actual results, blood serum therapy has reduced the mortality in smallpox at least 15 to 25%, it has changed the mortality in diphtheria from 40% to 10% to 15%. In tetanus it has made a mortality formerly 88% now 20%. In hydrophobia the mortality without serum therapy is 60% to 80%, and with early serum treatment it is only 0.5%. In plague it has changed a mortality of 80% into one of 1.5% to 20%, and let us hope that a like report is waiting for typhoid, scarlet fever, dysentery, septicemia and pneumonia. At the present time serum therapy is hardly more than in its infancy. It presents as yet many complicated problems, many unsolved questions, and many unexplained results, but from day to day its possibilities are becoming more encouraging, its application more general, and its value more appreciated, and there rises up before us the conception of an almost illimitable field which offers itself for research and study to the medical profession. What it has accomplished in the past is to the future what the surgery of one hundred years ago was to the surgery of to-day, and it is no vain hope, I think, to feel that further study and knowledge of serum therapy in relation to toxins and antitoxins will revolutionize our conceptions of disease, their cause and cure. The dawn of the past century little dreamed of the X-ray, never thought of radium, and little hoped for the advances made in all branches of medicine and surgery, and so too this, the beginning of another century, little knows what its future years are to bring forth. My object has been accomplished if in this repetition of an oft-told story and review of serum therapy I have but reminded you of what we owe to the names of Jenner, Behring, Tizzoni, Koch, Yersin, Haffkine and others, and caused you to realize that it

is to these men and others like them that medicine owes what it has to-day, and its promises of greater triumphs yet to follow. What wonder is it then that as we look back upon the past and see smallpox, diphtheria, tetanus, pyemia and septicemia and other diseases responding to serum therapy we are tempted to view the future with hope and give credence to the possibility of discoveries which twenty-five years ago we would have considered the vagaries of man's imagination. It was once said by a writer, and with his words I beg to close my paper: "It is good to stop and look back now and then, especially when the course passed over is such that the difficulties mastered in it are so many pledges of greater triumphs yet to follow. A retrospect, brief though it may be, shows us how much we may hope for in the future. It helps us to realize how mighty a harvest may be reaped from a handful of seed when there are faithful husbandmen near to watch over the growth. What results time will bring about we know not, but surely, with the marvels of the past before us, we may look up to God and allow our hearts to be filled with unspeakable hope."

**A CASE OF MASTOIDITIS INVOLVING THE ENTIRE  
MASTOID PORTION OF THE TEMPORAL BONE  
IN AN INFANT THREE MONTHS OF AGE.**

BY WILLIAM C. BRAISLIN, M.D.  
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Most cases of mastoiditis in infants are of the subperiosteal abscess variety, the infection usually extending through the masto-squamosal suture or other indifferently ossified parts of the bone or subperiosteally by way of the posterior superior canal wall. This was stated in a recent paper on the subject of "Mastoiditis in Infants." At the time of writing that paper no case of mastoiditis of the type about to be described had been met by the writer.

The case is likewise of some interest from the fact that it conclusively demonstrates that such extensive damage to the bony structures as was here found can occur in so short a time; since when cases of mastoiditis in adults are met with in which every part of the bone is necrotic or filled with granulated material and pus, one is apt to regard it as of some considerable time standing. It is evident that such a lesion may occur in a child in a very short time, since in the case herewith related the disease must have developed after birth; the history of the case carries the case back a month, the extreme limit

in point of time of the existence of the inflammation could certainly not have been greater than twelve weeks, the entire extrauterine life of the child.

A female child, three months of age, was presented at the Brooklyn Eye and Ear Hospital March 7, 1905, with a history of discharge from the ear during the preceding month. It had appeared to the parents quite ill during this time, and part of the time very ill. One week ago a swelling appeared suddenly behind the ear. The child had been regularly treated by the family physician until he referred the case to us. On examination the child was found to be a well-nourished, breast-fed infant, objecting vigorously to examination. The swelling behind the ear which had brought the child to us was a narrow, crescentic well-defined tumor, not prominent. The auricle was not displaced outward and downward. *No lop-eared deformity existed.* Both auditory canals were obstructed with thick pus. The flow of pus appeared to be sluggish. The left eardrum (the side exhibiting the swelling over the mastoid) was observed with difficulty. It was regarded as perforated at the superior periphery of the membrane at a small pointing point. The child was referred to the children's ward and next day was operated upon under chloroform.

Pus was encountered at the first incision. It had not previously escaped from beneath the periosteum. Under the periosteum the entire mastoid portion except the inner (cortical) plate was a soft, pulpy mass of necrosed bone, pus and granulation tissue. The thin, bony plate covering the dura and sinus had remained firm and intact. The removal of the diseased area represented rather well the operation on the region as recommended by Dr. Whiting. The space resulting was a shallow, gently shelving cavity including all the mastoid. The deepest part of the cavity thus formed was the space previously occupied by the antrum. This and the canal were lightly packed with gauze. At the first dressing, six days later, the canal was dry. Healing of the wound progressed very rapidly, but later, when the child was allowed to be taken home, suppuration from the canal reappeared and continued for some weeks. This is now, however, well again, and the drum has healed with no apparent damage. In a considerable operative experience with mastoiditis in infants this is the first one of this type met with. Complete riddling of the mastoid without any outward displacement of the auricle is certainly contrary to rule. The writer records the case because of its interest to him, and also

that in its description there occur some particulars not noted among those given in a paper in the BROOKLYN MEDICAL JOURNAL, August, 1904 (Braislin, "Mastoiditis in Infancy and Childhood.")

## TRANSACTIONS OF SOCIETIES.

### THE BROOKLYN SURGICAL SOCIETY.

REGULAR MEETING, APRIL 6, 1905.

#### ILEUS CAUSED BY THE APPENDIX ACTING AS A CONSTRICTING BAND.

DR. F. C. PAFFARD said that the appendix may act as a constricting band, causing ileus, is mentioned in most text-books. There are not as many cases reported as might be expected.

Richardson reports three cases. McWilliams reports eleven cases. Dr. Rushmore one case.

The history of the following case is typical of this condition.

John H., age 47, very stout and overfed, was previously healthy, except for occasional constipation, and, on two occasions, attacks of pain in the right iliac region. He did not stop working during these attacks, and did not consult a physician. They were three in number, about six months apart, the last about four months before present illness. They did not last for more than a day or two.

Present illness began October 1, 1904. He was awakened from his sleep about 3 A.M. by a violent pain in his abdomen. He began to vomit soon afterward, felt chilly, and was covered by a cold perspiration. Dr. Spafford saw him at three in the afternoon. Temperature 100, pulse 84, respiration 23. The abdomen was much distended. There was a small tumor in the median line about three inches above the umbilicus, apparently a preperitoneal lipoma. He vomited at intervals a bile-stained fluid. His bowels had not moved since the pain began.

On palpation the abdomen, while very tense, showed no rigidity of the abdominal muscles. There was no essential point of tenderness, neither could any mass be felt in the abdomen.

A high enema containing turpentine and magnes. sulfat was then given, and some gas and feces passed. Some magnes. sulfat was now ordered, to be given by mouth. Vomiting stopped, bowels moved twice during the night, and when Dr. Wunderlich saw him the next day with Dr. Paffard, he refused operation, saying he felt much better. The distension, however,

did not diminish. Vomiting began that night, and patient consented to operation Tuesday morning. He was then removed to St. Peter's Hospital.

A four-inch incision was made in median line just above the umbilicus, as it was thought that a hernia might be behind the preperitoneal lipoma. There was none. The small intestines were much distended, but the transverse colon was quite small. Gall bladder was apparently normal, but, on passing the hand down toward the appendix, this organ could be distinguished as a thick hard band, passing from right to left, attached to the posterior wall of the abdomen at its distal extremity. Behind the band thus formed, a loop of small intestine was tightly constricted. The adhesions about the end of the appendix were broken by the fingers. As it was impossible to remove the appendix through the median incision, this was quickly closed, and the appendix removed through an ordinary McBurney incision. The intestine that had been constricted was then examined. It proved to be ileum, and while somewhat discolored at first, regained its color after a few minutes. It was then returned to the abdomen, and the wound closed. The patient was then returned to ward in a state of considerable shock. That evening the bowels moved freely, and much gas was passed per rectum. The distension decreased. Pulse remained rapid and feeble. Temperature did not go above 100. Patient died on the fourth day after operation, apparently from intestinal toxæmia.

#### TRIFACIAL NEURALGIA TREATED BY OSMIC ACID INJECTION.

DR. A. T. BRISTOW presented a female patient, 57 years of age, whom he had treated for trifacial neuralgia by injecting osmic acid into the nerves, as described recently by Dr. J. B. Murphy, of Chicago. The patient had suffered from the neuralgia for four years. At first the pain came on only during the winter, but latterly the attacks of neuralgia continued into and through the summer. The location of the pain was that supplied by the infra-orbital nerves. The pains were shooting in character and lasted fifteen to twenty minutes at a time. The expression of patient was typical of extreme suffering. She was unable to eat solid food, but took fluids by the teaspoonful between the paroxysms of pain which even fluids excited.

Three weeks ago the infra-orbital nerve was exposed and injected with 15 minims of a 1½

per cent. solution of osmic acid. A second incision over the mental foramen was also made, and this also injected. Subsequent to the operation the pain stopped in the infra-orbital and submental divisions, but the patient still complained of pain which was restricted to the area supplied by the left anterior palatine nerve. After about a week's interval this suddenly disappeared for several days, and then reappeared, but in very mild form. It was determined to inject the anterior palatine nerve in the foramen. This was done with complete and immediate relief.

The cessation of the pain in the anterior palatine nerve before injection may be explained by supposing that the osmic acid injected into the infra-orbital nerve finally found its way into Meckel's ganglion, and interrupted the sensory impulses sufficiently to materially modify the neuralgia, without entirely relieving it.

The patient is entirely free from pain, but still has sensation over the area supplied by the nerves injected. She complains that the face on that side feels cold.

#### Discussion.

DR. W. C. WOOD said, in reference to the case of injection with osmic acid, it seemed to him a matter of extreme interest. He had not seen or had experience in that regard, and he wondered if it would not be indicated in well-marked sciatica. He noticed a few days ago that Leonard, of Philadelphia, says that these cases of facial neuralgia can be cured by X-ray treatments. He would like to ask if any of the gentlemen had any good results from the X-ray for relief of the neuralgia or sciatica.

DR. BRISTOW answered Dr. Wood's question with reference to the use of osmic acid in sciatica by remarking that the sciatic is a mixed nerve, and if osmic acid were injected into such a nerve there would follow a paralysis of the motor fibres, and if the motor paralysis was as permanent as we wish the sensory paralysis to be, it would be a rather awkward predicament for the patient. Therefore he did not think it could be used for that purpose.

#### EXSECTION OF AURICULO-TEMPORAL NERVE FOR NEURALGIA.

DR. A. T. BRISTOW reported another case of facial neuralgia, a rare one, because the pain was restricted to the auriculo-temporal nerve. This neuralgia was of seven years' duration. For the past two years the patient has had a chronic otitis

media, which is being treated. As the neuralgia antedated the otitis media by five years there did not seem to be any relation between the two affections. The location of the pain corresponded exactly to the atomical distribution of this nerve. The reporter had intended to inject the nerve with osmic acid, but on finding the nerve, it was perfectly evident that it was entirely too small for the introduction of a needle, and he contented himself with following the nerve down into the spheeno-maxillary fossa and avulsing out two inches of it. The patient has had complete relief for several months. The nerve can best be found where it leaves the artery and plunges into the spheeno-maxillary fossa.

#### SUTURE OF FACIAL NERVE ONE YEAR AFTER OPERATION.

DR. A. T. BRISTOW presented a little girl whose facial nerve he sutured one year ago. This nerve had been divided by another surgeon in the course of an operation for tubercular glands, and the child had a total paralysis of the facial muscles of that side. At the operation the nerve was apparently intact, except that about the middle of the loop there was a nodule entirely crossing the nerve. He found by electric current that all conduction ceased on the distal side of the nodule. It was evident the nerve had been divided and that a bit of the tubercular tissue had gotten in between the ends of the nerve and interrupted conduction. The nodule was excised and the ends of the nerve united by fine black silk. At the end of the year, while there is still some muscular weakness on the affected side, still the child has control of the facial muscles. One must not, therefore, be disappointed in these cases if it takes a long time for regeneration to take place in the axis cylinders of a nerve which has been divided and sutured after a considerable interval, during which there has occurred not alone degeneration of nerve tissue, but atrophy of the muscles supplied by the nerve.

#### REMOVAL OF BULB OF ŒSOPHAGEAL PROBANG FROM A CONTRACTURED ŒSOPHAGUS BY MEANS OF A WOUND IN THE NECK, WITHOUT OPENING THE ŒSOPHAGUS.

DR. A. T. BRISTOW reported a case which he thought to be important because of the unusual and unexpected nature of the accident which brought the patient to his care.

About two months ago he was called in consultation by a physician who had been treating a little girl ten years of age for a strictured œsophagus, due to swallowing lye several years before. The physician had been dilating the stricture

with an œsophageal bougie, with interchangeable bulbs, changing from one size to another as occasion required. It had been necessary to give the child a little chloroform always, as she resisted when conscious. On this occasion the bougie had been passed through the stricture, but on endeavoring to withdraw it the physician found that the bulb had slipped off and remained below the stricture. It took three and a half complete turns of the bulb to screw it on the staff, and the doctor assured him the bulb was fully screwed on the staff before being used. Nevertheless, during the manipulation it became unscrewed and became imprisoned below the stricture.

The X-ray showed that the bulb was at the sternal notch. Dr. Bristow sent the child into St. John's Hospital, and having been placed in an exaggerated anatomical position with the head thrown far back, the usual incision for the exposure of the œsophagus was made and the œsophagus brought into view. It was then possible to palpate the bulb and by good fortune to express it with the finger through the stricture and into the pharynx, from which it was easily extracted by the mouth. The child subsequently contracted a broncho-pneumonia and was quite sick for ten days, but recovered entirely. Dr. Bristow returned the child to the physician who had her in charge, advising him not to use removable bulbs for the purpose of dilatation, but to employ solid instruments of different sizes.

#### Discussion.

DR. W. C. WOOD said that a similar case had occurred in his experience. A gentleman, who was an artist, had suffered from tubercular disease in the cervical region for some time, and an abscess in the neck had produced cicatricial contractions in the œsophagus. That case was being treated by a throat specialist with œsophageal bougies. One of them became loose and completely lost in the œsophagus. This was followed by an inflammatory process, which shut off the œsophagus absolutely. The man was in a weak condition; could not even swallow fluid. At that time the doctor put him on rectal feeding and rectal enemas of salt solution. The patient regained somewhat in strength. On account of the mass of scar tissues in the œsophagus and in the neck in connection with the tubercular disease, it seems best to him to resort to gastrotomy. He attempted to do that, but the man died from the first inhalation or two of chloroform before he was touched with the knife. Dr. Bristow's case was interesting as being a second ex-

ample, showing that these bulbous bougies do become unfastened in the œsophagus, even in the hands of men who are skilful and careful.

#### PLASTIC OPERATION FOR WEBBED AND CONTRACTED FINGERS FROM ELECTRICAL BURN.

DR. A. T. BRISTOW presented a man who came to him with webbed and contracted middle and third fingers of left hand from an electrical burn, received from contact with the third rail in the subway. The third finger was bent down into the palm of the hand by the cicatricial contraction, the middle finger being less strongly flexed but closely connected to the third finger by a web extending beyond the second phalanx. The following operation was done for the relief of the deformity: First, all the cicatricial tissue was excised, exposing the flexor tendons. The web was then divided and a palmar flap of sound skin turned into the gap between the fingers and sutures. The remaining raw surfaces were covered with Thiersch grafts, and the hand secured to a dorsal splint.

The fingers are now entirely straight, the webbing has not recurred, and flexion is rapidly increasing so that there is every prospect that the hand will be as useful as before the accident. and the result speaks for itself.

#### *Discussion.*

DR. W. C. WOOD congratulated Dr. Bristow on his excellent result in this finger case. He saw the man before Dr. Bristow did. The man had been out of work for some time. The doctor thought it wise to remove one of the fingers and straighten the other, believing the scar tissue produced would not be sufficiently firm for his work as an electrician. However, Dr. Bristow had succeeded in obtaining a much better result in the hand than he had anticipated doing and although the man is going to be delayed from work longer than if he had submitted to amputation, he thought the course pursued by Dr. Bristow was the wiser one. He believed the doctor had obtained a better plastic result than we have a right to expect in a case of that kind.

#### OPERATION FOR RE-FRACTURED PATELLA.

DR. R. S. FOWLER presented a man whom he had operated on for fractured patella about August 19th. Re-fracture took place subsequently. The man, an acrobat, during one of his exhibitions noticed pain and tenderness in his knee. This kept on for four weeks, during which time he still kept on the stage performing. At the end of four weeks, when trying to jump

up on a table, he felt something snap, and it was found that his patella was broken by muscular action.

He entered the German Hospital August 12th. The fibrous tissues around the patella were sutured with very fine silver wire sutures. He was in the hospital until October 11th, and went out with an apparently perfect result, not wearing any apparatus and with a fair degree of motion. About a week after he went home. While walking along the sidewalk, he stepped into the street and was run into by a bicycle. He was thrown down and re-fractured the patella. He was taken to the German Hospital a second time October 23d, when a silver wire suture was passed through the patella itself. Two weeks later an apparatus was applied which would limit the motion of the patella. The amount of motion was gradually increased until a few weeks ago the apparatus was removed. He now has practically normal motion. He is engaged in gymnasium work and expects to reappear on the stage soon.

#### OPERATION FOR OLD FRACTURE—DISLOCATION OF THE HUMERUS.

DR. R. S. FOWLER presented a boy, 17 years of age, who came to the German Hospital, June 24th, with an old fracture-dislocation of the head of the left humerus. Four weeks previously he had fallen from a wagon and received a fracture of the anatomical neck with a displacement of the head under the coracoid process. The speaker tried to reduce the dislocation under an anesthetic without incision, but found it impossible, and then made an incision through the deltoid, exposing the head of the humerus and the joint, and by the use of a hook managed to get the head of the bone into the glenoid cavity, but could not secure apposition with the shaft of the humerus. In order to secure the bone in place, a steel drill was used to nail the fragment in place. This drill was left in for four weeks, the arm held in the Velpeau position, and after five weeks the drill was removed. The boy was in the hospital ten days. About six or seven weeks after the operation he could use his arm. It is now impossible to distinguish the injured from the sound shoulder joint except by the scar.

#### A CASE OF PRIMARY TUBERCULOSIS OF FLOATING CARTILAGE IN THE KNEE JOINT.

DR. B. B. MOSHER reported the case of Miss S., 25, who came under his care about November, 1902, with the following history: Nearly



two years before she had fallen off a bicycle, striking on her right knee, the leg flexed. There were very marked local symptoms following, such as pain, tenderness, swelling, etc. She was treated for several months with rest, plaster of Paris casts, elastic knee-cap, ichthyol, etc., which resulted in an apparent cure, but every few weeks or so, while walking or while arising from the sitting to the standing position, she would get what she called a kink, which meant trouble in the knee-joint of varying degrees, but would subside only to recur. When he saw her, two years after the original injury, she was a plump, healthy-looking young woman, 25 years old, though perhaps a trifle pale. The knee, which had just had another kink, was swollen, fluctuating, tender, painful, etc., and in the outer side of the joint could be felt a body about the size of a silver quarter of a dollar, very freely movable within the joint. This, with the history, led to the diagnosis of floating cartilage in knee joint.

For about a year, from June 1, 1902, to June 1, 1903, she got along comfortably well, using care, casts, knee-caps, etc., but from June 1, 1903, to June 1, 1904, she became more and more disabled, and the symptoms that had heretofore been intermittent were now constant, and the floating cartilage had increased in size, and was very tender and now stationary. The X-ray showed nothing. It was decided to use surgical measures, so June 1, 1904, an operation was undertaken having for its object the removal of this floating cartilage. A longitudinal incision about two inches long was made on the outside of the joint, directly over this now adherent cartilage. On reaching this mass it was much softer than had been anticipated, and as soon as the incision was through the capsule of the joint, the mass gave way, and quite a considerable amount of broken down tissue and pus gushed into the wound, leaving the mass hollow, but without any connection with the joint itself. In order to protect the joint a few deep mattress sutures were placed through the skin and capsule, then out on the other side of the wound, going behind the cartilage, so when they were drawn tightly it approximated the capsule surfaces behind. Thus the mass was delivered through the incision. It was carefully dissected out, but was so soft that it came away in small pieces. The wound was closed completely and plaster of Paris applied; primary union was obtained, and she made an uneventful recovery, and only a few days ago, ten months after the

operation, wrote that her knee was perfectly well.

The report of the pathologist was *tuberculosis of cartilage*.

#### Discussion.

DR. R. W. WESTBROOK said that primary tuberculosis of the cartilage of joints is a rare occurrence and something unknown to him. In adults, of course, tuberculosis originating in the synovial membrane of the joint, following an injury, is a comparatively common thing. It did not seem to the doctor that one could assume that this case was one of primary tuberculosis in this so-called floating cartilage. It is not an uncommon thing, too, to find in tubercular synovial membranes, especially, cartilaginous masses forming, and the floating cartilage Dr. Mosher spoke of, it seemed to him, might very well have been of that character. Tuberculosis originates usually in the epiphyses of bone or in the synovial membrane, and in adults, as a rule, in the synovial membrane, and he should feel this case followed the usual rule rather than what is practically unknown at the present time, originating in cartilage, and a floating cartilage at that.

#### EXCISION OF ELBOW JOINT FOR COMPOUND COMMUNUTED FRACTURE.

DR. J. B. BOGART presented a patient to show the result, after partial excision of the elbow for badly comminuted compound fracture. At the operation the amount of bone that was removed was something like an inch and a half of the lower extremity of the humerus, with the head of the radius. The patient was brought into the Bradford Street Hospital the latter part of last November with a compound comminuted fracture and considerable hemorrhage. He enlarged the incision and found several loose fragments of bone, which he removed, and it was impossible to so arrange the fragments as to hope to get anything like their natural apposition in case they should unite. He was disposed to leave quite a large part of one of the condyles still attached, but thought it was better to remove that for fear the remaining portion would have a tendency to cause a displacement of the elbow joint, which would be more awkward than the loose joint, so he removed that also.

The wound was closed with drainage, and no infection having occurred, repair was prompt and uneventful, resulting in perfect function of all joints and structures, except at the elbow, which exhibits in only a moderate degree the

usual phenomena of flail joint, a result which, in Dr. Bogart's opinion, is much more satisfactory than a stiff elbow would have been, supposing such a result possible in this case.

ACUTE PERITONEAL INFECTION, AND ITS IMMEDIATE RELATION TO INTESTINAL OBSTRUCTION.

DR. J. P. WARBASSE read a paper on this subject, showing that in acute peritonitis the inflammation causes a paralysis of the muscular coat of the intestine, giving rise to intestinal obstruction. Such obstruction as this, while mechanically very different from obstruction in the ordinary sense, was pathologically and clinically very similar. Paralyzed bowel gives rise to the same symptoms as occluded bowel. Intestine which cannot propel onward its contents is the seat of intestinal obstruction, it matters not whether the contents are a constricting carcinoma, foreign body, or gas. Furthermore, the great absorptive power of the peritoneum has practically no bearing on the subject of peritonitis. Peritoneum which is the seat of an acute inflammation is so altered that it resembles granulative tissue more closely than it does normal peritoneum; and it is doubtful if pus or septic material resting on the inflamed peritoneum is absorbed any more readily or is responsible directly for any more general septic symptoms than would be the case were the same septic material confined under the same pressure in any other part of the body. Fatal peritonitis is fatal because of intestinal obstruction, unless the character of the infection is so severe that it would have caused death had it existed in another part of the body with the same area exposed to absorption.

*Discussion.*

DR. M. FIGUEIRA understood Dr. Warbasse to claim that death from peritonitis is due usually to intestinal obstruction (intestinal paralysis) and not to septic infection from the peritoneal cavity. This proposition was so novel and startling and upset previous theories so much, that he thought one has to stop a minute to see what to make of it. What does kill people in intestinal obstruction? Is it due to absorption of intestinal contents? Does the patient die previous to the infection of the peritoneum? If we look at cases of intestinal obstruction at autopsy, we find marked and characteristic peritonitis, due to the infection of congested peritoneum, especially the venous congestion, which, as we know, prepares the ground for bacterial infection. When there is

a volvulus or constriction by a band or any other cause of intestinal obstruction, there is venous congestion of the bowel, caused by interference with return circulation. This is the ground for the development of bacterial infection and of the peritonitis that results from it, produced by migration out of the bowel of the *bacillus coli communis* and others into the peritoneum. And as a result of this we have an infection that eventually kills the patient. The patient from intestinal obstruction dies, not from stercoraceous absorption, but from septic infection. In the same way patients die from peritonitis, and it was not necessary, in his experience, for a patient that dies with peritonitis to have intestinal paralysis. He has seen patients die with peritonitis in whom fecal evacuations had taken place from time to time, and supposed this is the experience of others. Then, again, we see clinically cases of chronic intestinal obstruction, in which the contents of the bowel have been retained for a very long time, and yet these cases do not die with septic infection.

Then, again, in cases of peritonitis the same bacteria infecting the peritoneal cavity have been found in the blood itself. The *bacillus coli communis* has been found in the blood and peritoneum; so has the streptococcus.

Dr. Figueira maintained that Dr. Warbasse had presented no proofs of his contention. Dr. Warbasse said this is so, but what proof does he give? How does he demonstrate that the fatal cases of intestinal obstruction die from intestinal obstruction? Is not the paralysis of the intestines in these cases the result of absorption of septic material caused by peritonitis, rather than the way the essayist claims it to be? In the speaker's way of thinking, the obstruction is the cause of the symptoms. Both in peritonitis and intestinal obstruction patients die from septic absorption, partly may be from the intestines, but mostly from the peritoneal cavity. The intestinal paralysis of peritonitis is a consequence, not a cause.

DR. L. S. PILCHER believed there was something to be said on both sides of the question. He remembered very distinctly a gentleman, prominent in the community, who suffered from intestinal obstruction, which operation determined to be due to a contracting carcinoma of the colon, in which, as the result of the obstruction, the cæcum and ascending colon had become very largely distended. The obstruction was excised and the continuity of the intestinal canal was re-

established. Naturally one would have supposed that the symptoms of sepsis, of exhaustion, of general disturbance, which had begun to be manifested before the removal of the obstruction, would have begun to subside. On the contrary, the over-distended cæcum and ascending colon did not propel its contents, and the obstruction remained to all intents and purposes the same. The thing to have been done in such a case evidently, if the condition had been appreciated, would have been to have re-exposed this paralyzed and distended bowel and to have emptied it. This, however, was not done; the real state of affairs not having been appreciated until it was too late. A progressive general septic condition followed, and within three days the gentleman died, not from peritonitis, but from the absorption of septic material from the unemptied over-distended fecal reservoir, which, from the paralysis, the cæcum and ascending colon had been converted into.

The contention of Dr. Figueira, that cases of intestinal obstruction, as a rule, do not begin to produce their serious symptoms until the bacteria from the bowel have transuded through the over-distended and paralyzed intestinal wall and a condition of peritonitis becomes developed, seemed to the speaker, however, to be the general experience, and Dr. Figueira's description of the condition was perfectly true.

It seemed to Dr. Pilcher, further, that the reasoning and contention of the writer of the paper was such as required considerable thought before it could be satisfactorily discussed by those who listened to it, and the fact that the members did not hasten to discuss it was not so much because they did not appreciate the importance of the views expressed, but rather because they did appreciate their importance and desired to have a greater amount of time for their consideration before they began to express their views with regard to them.

Harking back on former experience, he was inclined to think the paper expressed not all of the truth, but a part of it, a truth perhaps imperfectly appreciated and only but feebly expressed before, but if the idea is that it is to cause us to throw aside all previously accepted views of the dangers of peritonitis, possibly it may not receive general acceptance. In the clinical experience which presents itself to the surgeon, there are examples of both methods of development of peril in connection with infection of the peritoneum and of the infection from the cavity of the intestine itself.

DR. J. P. WARBASSE expressed disappointment in not having the benefit of the opinion of some of the other members of the Surgical Society on this important subject. He did not take the time to present an elaborate thesis, but he assured the gentlemen that what he had said had been uttered not without proper consideration, and while Dr. Figueira very properly stated that he did not present absolute confirmation of his statement, he would say that he presented the results of a not inconsiderable clinical observation and experience. He had taken pains to try and find out from experimental physiologists and pathologists the causes of death from intestinal obstruction, and at the present time the most enlightened information which we could secure on that subject failed to explain why these cases die.

Dr. Figueira was thoroughly incorrect in attributing death in these cases to stercoral absorption for the most advanced experimentation showed that death is more probably due to disturbances of the sympathetic nervous system of the intestine than with the stercoral absorption or with the later peritonitis. It is curious that the absorption of intestinal contents in these cases really has so little to do with the matter. A person may have a paralyzed bowel, such as he had illustrated on the board, and die from that condition without peritonitis, just as from paralysis or an obstruction from a foreign body; yet another individual may go the same length of time, or much longer, without a movement of the bowels, with fecal material impacted in that same place, and still have none of these symptoms which we are in the habit of recognizing as the symptoms of intestinal obstruction.

He had not presented reference, but was able to do so. He did not wish to be understood as minimizing the importance of septic absorption from the peritoneum. The peritoneum has a large surface, and often we see a very considerable surface involved; but in rebuttal to Dr. Figueira's statement that these cases die without intestinal obstruction, he contended that cases of infection of other parts of the body die without intestinal obstruction. They die from septic absorption, and septic absorption may occur from the limbs, from the joints, from other parts of the body, and cause death just as it may from the peritoneum; but the peritoneum, when inflamed, it seemed to him from his clinical experience, does not furnish any greater amount of absorption than other parts. He knew of no proposition in recent surgery so unsurgical and so contrary to our experience as the proposition eman-

ating from Johns Hopkins Hospital concerning the absorption of materials from the upper part of the peritoneum, which resulted in the suggestion to elevate the foot of the bed in peritonitis in order to secure drainage to the parts of the peritoneal cavity, from which absorption could take place the most readily. As he had stated, absorption in peritonitis must take place from the inflamed peritoneum. Even if we could dump into the noninfected peritoneum the products which we desire to have absorbed immediately, we would have quickly developed there an inflammation, and the changes in the peritoneum which convert it into a surface similar to the lining of an abscess. If one would take the pains to make a section of acutely inflamed peritoneum, as the speaker had done, he would be unable to discover endothelial cells, excepting with great difficulty; in fact, there is often no suggestion of endothelial cells. You find so rich a deposit of new connective tissue, of new round connective tissue cells, that there is present a picture which is similar anatomically to the granulations and the tissues which line an ordinary abscess cavity; it is the same and is no more absorbent.

The matter of pressure has a great deal to do with this thing. When an appendix becomes inflamed and surrounded by pus which is retained under pressure, there is a higher temperature than when the same amount of pus is unconfined in some part of the free peritoneal sac. That is a condition which holds true in abscesses or in collections of pus in any other part of the body.

He had seen such cases as Dr. Pilcher has spoken of. He had seen cases in which an operation is done for mechanical obstruction of the bowel; a carcinomatous segment of the bowel is removed; the two ends of the intestine are joined; a peritonitis develops; and the patient goes on with symptoms similar to those which existed before obstruction was relieved. There are present the symptoms of mechanical obstruction with the addition of muscular rigidity which characterizes peritonitis.

The speaker recalled very distinctly as a hospital interne seeing cases with his attending chief illustrating these points. A case of peritonitis, with its peritoneal expression, with the stercoral vomiting, the distention, the thready pulse and a not high temperature, lies dying, and the surgeon calls his attention to the picture of profound septic poisoning from absorption from the peritoneum. We have always been taught that this picture is due to the absorbing of septic products

from the peritoneum. In the next bed might lie a case of mechanical obstruction of the bowel; and still that case would have the same expression, the same rapid pulse, the same stercoral vomiting as the case of peritonitis, the latter case differing from the first only in the absence of the muscular rigidity of peritonitis. Both of these cases, as a matter of fact, were suffering from intestinal obstruction; the one case, the peritonitis case, had added to it the slight sepsis from peritoneal absorption; but, as he had said before, he did not believe that that absorption amounts in such cases to any more than it would amount to if the same amount of septic material were confined, under the same degree of pressure, with the same area of abscess wall, in any other part of the body.

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### THE BROOKLYN PATHOLOGICAL SOCIETY.

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HENRY G. WEBSTER, M.D., Editor.

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457TH REGULAR MEETING, MARCH 9, 1905.

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The President, J. C. MACEVITT, M.D., in the Chair.

#### REPORT OF CASE AND PRESENTATION OF SPECIMEN : TUBERCULAR ULCERATION OF INTESTINE.

DR. JOSEPH presented a specimen which he had obtained some four months ago at the autopsy room of the Kings County Hospital. The clinical diagnosis was typhoid fever; in fact the patient presented all the symptoms of typhoid with the exception of the rose spots. His temperature was markedly typhoid. He had a persistently high leucocyte count. The Widal was three times negative. He died in coma. When Dr. Joseph came to open the abdomen he found a greatly hypertrophied omentum, which he exhibited. The diameter of the thickest part was one and a half inches and that was at the larger curvature of the stomach. The intestines were in what Dr. Van Cott is pleased to call a state of complete synechia. The tubercular ulcers were plentiful throughout the gut on cut section. The stomach also showed five or six ulcerations of various shapes and sizes. The right lung contained an original tubercular process, and the smallest of the retro-peritoneal glands was as large as a lima bean. The patient was ill for four weeks at the hospital and for three weeks before he came in. He was not emaciated. A remarkable condition

was that his heart was filled with fluid blood completely; there was no sign of clotting.

PAPER: ACUTE PERITONEAL INFECTION AND ITS  
RELATION TO INTESTINAL OBSTRUCTION.

BY DR. JAMES P. WARBASSE.

*Discussion.*

DR. A. MURRAY, opening the discussion, said that Dr. Warbasse had presented a most interesting paper, and had managed to disturb some of his former ideas about peritonitis. Of course, Dr. Murray approached the subject, he said, from the laboratory standpoint entirely; he had not been interested particularly in the surgical aspect of the matter as to how the peritoneum protects itself from invasion. Dr. Warbasse's paper was a little different from what he expected, as he thought the Doctor might take up the subject more particularly as relating to the pathology of peritonitis. While there is a good deal of theory as to how the peritoneum protects itself against invasion, there are experiments which had been made lately that give us one or two new notions, if they are true.

When an animal is injected with a pathological micro-organism, the body probably protects itself because it can form in itself a substance which is called the immune body, and this is supposed, according to this theory of Ehrlich, to attach itself to the bacterial protoplasm, and in the process of its attachment it permits another body, called the complement, to act upon the bacterium with a fatal result to the micro-organism. The complement is supposed to exist in the leucocytes, to be locked up in the leucocytes, and it is not brought out unless the blood is shed or certain fluids are injected, we will say, into the peritoneal cavity. Then it is set free in the serum and can act.

There are two kinds of complements; one is supposed to be derived from the polymorphonuclear leucocytes, that is, a bactericidal serum, the other comes from the large mononuclear cells, and that is supposed to have a specific action on the blood—hemolytic. The blood in the vessels possesses no very marked bactericidal properties, because the bactericidal substances are supposed to be locked up in the leucocytes. As the power of the peritoneum to resist infection is supposed to be due to these complements, it is of some interest to investigate how they exist and where they exist; whether they circulate in the body fluids as a continuous secretion of the leucocytes, or whether they originate from the alterations which the leucocytes undergo. It has not been

exactly decided. Metchnikoff believes the serum arises only when the leucocytes are damaged.

In the experiments which he would detail, Briscow thinks he has decided the question this way: he injected rabbits and guinea pigs with certain fluids in their peritoneal cavities,—milk, peptone water, salt solution, bouillon,—and then portions of these fluids were withdrawn at varying periods from one-half to twenty-four hours and examined to see what kind of cells were present. He found that during the first thirty minutes there were no polymorphonuclear leucocytes present and sometimes for a longer time. Between thirty and sixty minutes the polymorphonuclear leucocytes began to arrive, and they increased up to about the sixth hour. At that time the lymphocytes or the large mononuclear leucocytes, so-called, came upon the scene and increased proportionately and continued to increase up to the end of the reaction, which is about the fifth day.

Dr. Murray said that that agrees with our modern ideas that the polymorphonuclear leucocytes are the most active in the early and acute stages of an inflammation, but their effect is not lasting, and they give place to the large mononuclear leucocytes. The eosinophiles have no definite course, no rule as to what they do.

According to these experiments, Metchnikoff's idea that the bacterial complement arises from the destruction or the alteration of the leucocyte would not hold, because it could not be in the unattached peritoneal cavity, since Briscow has shown there were no polymorphonuclear leucocytes there, but when he came to inject a virulent cholera culture, then he found that the bacterial complement was present in the normal peritoneal cavity, and yet there were no polymorphonuclear leucocytes there. At the same time he proved that there was no relation between polymorphonuclear leucocytes and the bacterial complement. The experiments proved apparently that the bacterial complement is there constantly in the normal peritoneal cavity without the presence of the polymorphonuclear leucocytes at all times, and if this is not so, why, of course, Ehrlich has disproved Metchnikoff's theory.

Dr. Murray wanted to ask Dr. Warbasse one question: he spoke about granulation tissue and young fibro-blasts. Dr. Murray had not determined where they came from in the adhesions, that is to say, the peritoneal cells of endothelium are not supposed to take any part in the formation of adhesions. They play a negative rôle apparently, and where the fibro-blasts come from that go

to make this fibrous formation he had yet to find out.

DR. J. D. SULLIVAN thought that Dr. Warbasse's theory was very plausible and was sure in some cases it is true, but it did not satisfy him as to a condition of affairs that he had met with on several occasions in which this state of affairs did not exist. If he understood the principal idea in Dr. Warbasse's paper it is this: that acute septic peritonitis produces its great mortality by reason of intestinal obstruction and not by reason of the septicæmia which accompanies it. In a great many cases we find this intestinal obstruction, this acute septic peritonitis, but he had seen cases in which there was no distention of the bowels whatever, in fact, the abdomen was flat, flabby and soft, and yet the abdomen contained a large quantity of pus when opened. Dr. Warbasse might be able to explain that condition of affairs. To the doctor it did not appear that the intestinal obstruction alone is the cause of the death in a large proportion of the cases; at least he deemed it was not in some. It appeared to him that the condition of the patient at the time of the onset of the disease has a great deal to do with it. Probably Dr. Murray might be able to explain what Dr. Sullivan meant by vital resistance or vital depression. He knew as a matter of experience that some people in good health may be afflicted with a very serious attack of septic peritonitis and yet go through safely. He knew equally well that others in a poor condition at the time of the onset of the disease may be taken with a similar form, so far as we can see, and the disease go on to a fatal issue. The only explanation that he could give to distinguish between these two is that one individual had a greater vital resistance than the other. Whether the power to resist the toxins was in the leucocytes or nervous system generally, he did not know. In some cases of perforative appendicitis, for instance, as soon as the region of the appendix becomes infected, Nature will throw out an inflammatory product, wall off the remainder of the abdomen and protect it, and the case goes on to an abscess, and when that has happened the patient recovered. In other cases, the contents of the perforated appendix leaks out, and no plastic material is formed, the inflammation rapidly extends over the abdomen, and you get a septic peritonitis with or without intestinal obstruction. If Dr. Warbasse's theory is true it will throw a great light on the question of drainage after operations on the abdominal cavity. There was a time when he favored drainage;

there was a time when he opposed it; and now he was in many times in doubt, but rather favored it. His great objection to leaving a drain in the abdominal cavity is that under certain circumstances there is an exudation thrown out about the drain, and the drain was walled off from the remainder of the abdominal cavity, and only absorbed that portion of the fluids in immediate contact with the absorptive material. At other times it will drain the whole abdominal cavity, if you get the position correctly.

Dr. Sullivan, in closing, asked Dr. Warbasse as to his opinion of the efficacy of drains after opening the abdominal cavity.

DR. H. G. WEBSTER believed the paper was so revolutionary in many of its aspects that one could hardly be expected to digest it all at once. At first blush it certainly seemed there are a great many cases of peritonitis that hardly seem to be explainable on the grounds of Dr. Warbasse's paper. Dr. Sullivan had mentioned one class of cases of that sort where the patient dies without the presence of any distended intestine, at least any that is noticeable, and he, for one, was hardly ready to accept all that Dr. Warbasse had stated without time to consider it a little bit more carefully. He was inclined to doubt whether the distention theory as applied to all cases is admissible, or whether we might not better say it is confined to a few, and ask the doctor to explain it more fully on some subsequent occasion.

DR. J. C. MACEVITT agreed with Dr. Webster that Dr. Warbasse's ideas were so revolutionary, it would require some thought and investigation to coincide with him. The diagram the doctor had drawn upon the board struck him most forcibly as delineating conditions where you expect death to result. With that explanation the ground that the doctor took was tenable, but it would have been most instructive if he had gone a little further and brought up the therapeutics of the differential diagnosis in these cases. The whole matter hinges on the differential diagnosis, particularly in cases of appendicitis, he thought.

The cause of the dilatation of the intestine in certain abdominal operations is due to the attack by the bacterial elements upon the localized parts effected, and with a certain portion of the intestine effected, we can get the intestinal obstruction described. In the vast majority of cases of peritonitis that he had met with he had not found this condition of intestinal obstruction. We will often get the premonitory symptoms of peritonitis, we get the fever not very high, the disten-

tion, the vomiting the hippocratic expression, and yet the cases will recover.

If Dr. Warbasse's theory holds good, with this condition described, with the paralysis of any portion of the intestinal tract, recovery is not so apt to occur, so what his views are regarding the mortality of cases where you will get that distention producing a certain amount of paralysis is a query he would like to have answered. He did not feel that he was capable of discussing the paper, but the few suggestions he made were for the purpose of further investigation from Dr. Warbasse.

DR. J. P. WARBASSE, concluding the discussion, said there seemed to be some misunderstanding. He had propounded no theory; he had presented a statement of some facts; these facts are based upon his personal experience and observation. If there was any one thing which he had endeavored to demonstrate, it was that the absorptive power of the peritoneum in peritonitis has been greatly exaggerated and is a great bugaboo. That as far as its absorptive power goes, in inflammatory conditions the peritoneum is in no more hazard than any other part of the body, and that the ordinary case of peritonitis, when it does present the series of symptoms which we are in the habit of recognizing, and which he had described, are not symptoms of septicæmia, but are the symptoms of intestinal obstruction. Dr. Sullivan had cited cases in which, and Dr. Webster also referred to such cases, there is a peritonitis without intestinal obstruction and still the patients die. That is true—such cases do occur. He called attention to such cases in his paper and referred to the high mortality in puerperal peritonitis and gave a reason for that.

He also saw cases of peritonitis in which there is pus in the abdomen without a distention which amounts to a paralyzed bowel. That is so in certain mild infections, which he believed have usually been found due to such micro-organisms, which seem not able to penetrate through the peritoneum and to involve the muscularis of the bowel.

The point which he would like to impress upon the Society was this: That as far as septic absorption goes, a given amount of pus, the product of a given micro-organism in the peritoneum is no more serious, gives rise to no more septic symptoms than that same amount of pus would in any other part of the body.

In reply to Dr. Sullivan he would say we see cases die with pyæmia in which there is pus in the chest, in the thigh, in the back. The same cases would have died of sepsis, if the same amount of

pus, the product of the same micro-organism, had existed in the peritoneum, and here we would have had a similar condition. So the cases which he had illustrated by that drawing were a different class of cases, it is true. They are the fatal cases of peritonitis, the cases with intestinal paresis, and these cases are practically all of the fatal cases of acute infection of the peritoneum. He was not dealing with the chronic cases. The illustrations of chronic peritonitis did not concern us at all in the discussion; that had not been taken into account. It was the acute conditions which produced a paralysis of the bowel; and his paper was a protest against confusing these symptoms of intestinal obstruction with the symptoms of peritonitis. In all his medical experience he had seen cases dying of acute peritonitis, in which such a condition as this existed, in which the patient was not dying of septic infection, but dying actually of intestinal obstruction such as he had illustrated on the board, and he had heard these cases referred to as cases presenting the profound sepsis of peritonitis. It was not the symptoms of profound sepsis of peritonitis which these patients presented; it was the symptoms of intestinal obstruction, and these are the conditions which we see clinically.

DR. MACEVITT asked, with the exception of the symptoms of fecal vomiting, how Dr. Warbasse would differentiate between conditions of peritonitis in which paralysis existed and in which it did not exist. The Doctor also asked if you will get the same subjective symptoms.

DR. WARBASSE replied no.

DR. MACEVITT again asked for the differential diagnosis. Take a patient, he said, after laparotomy, how are we to know we have the condition Dr. Warbasse described, that we have the intestinal obstruction of the septic peritonitis where all the symptoms are in common?

DR. WARBASSE said the question was easily answered, but was out of the line of the paper. Take a case of infection of the peritoneum, he said, before intestinal obstruction has developed. We have first the initial symptoms of peritonitis with which we are all familiar, and which have no relation to intestinal obstruction. We have first the rigidity of the abdominal muscles, the slight rise of temperature indicative of an inflammatory process developing and leucocytosis, and the increased pulse rate, increasing even out of proportion to the febrile movement. The absence of distention, which is not present in the beginning, is characteristic of the initial stage. Gradually distention begins and this condition insensibly runs into the condition which he described on the



board, so insensibly that there is no point where it can be differentiated. There is a paresis of the bowel even before micro-organisms have penetrated into the muscularis. We are familiar with the inhibition of peristalsis which takes place in the intestine, even in the neighborhood of peritoneal irritation. When there is a non-infective irritation of the peritoneum in the case of a ruptured bladder or a rupture of a dermoid cyst or some other viscus, and irritating fluid is emptied into the abdominal cavity, we have the inhibition of peristalsis which is due simply to peritoneal irritation without any involvement of the muscularis of the bowel at all. For that reason it is impossible to draw a line of difference between the time when the actual complete intestinal obstruction exists. Really we may say, if we would draw an arbitrary line, complete intestinal obstruction exists as a result of inflammation when the distention of the bowel has reached a point from which it cannot recover after the inflammation has subsided. Frequently we open the abdomen in a case of acute peritonitis and find so great a degree of distention that we know from seeing it, that whatever may happen to that patient the bowel cannot recover itself, this distention being to the point of paralysis, from which it cannot recover, so that we can draw no more arbitrary line than that. The intestinal obstruction exists actually when the fecal current ceases to pass. The fecal current ceases to pass when such a condition as that (pointing to drawing) has developed. Such a condition develops thirty-six hours, forty-eight hours, three days after the onset of the invasion of the muscular coat of the bowel with infective micro-organisms. There are points of differentiation, however, which we can recognize clinically.

In regard to the point of Dr. Murray, the new connective tissue which develops in the peritoneum when the peritoneum becomes acutely inflamed is entirely independent of the specific serosa cells of the peritoneum. They play an entirely passive part as a result of the irritation of the micro-organisms and their ptomaines. A dilatation of the blood vessels underneath the serosa takes place, cells emigrate from the dilated walls, all the phenomena of inflammation are active there. New connective tissue cells are deposited beneath and between the endothelial cells, new blood vessels spring up until they become surrounded and encroached upon everywhere by deposits of new connective tissue, just the same as occurs on a raw surface anywhere in the body. In the peritoneum they are the result of a continually acting irritation. In a wound they are the result of the

same thing. The difference is in the wound the irritation is briefer.

Microscopically we find an inflamed peritoneum anatomically the same thing as granulation tissue in any other part of the body with the exception that in most of these new cells we find the relics of endothelial cells. When we attempt to put a needle into acutely inflamed peritoneum, it tears out just as easily as out of new granulation tissue. In all of our text-books on peritonitis the first thing we encounter is a description of the enormous absorptive powers of the peritoneum, and figures are given that the peritoneum is capable of absorbing so much per cent. of the body weight of fluid in a given time. That has absolutely nothing to do with peritonitis. The normal peritoneum is not present at the site of a peritonitis, excepting, as he said, in the rare exceptions where pus formed abscesses in the peritoneum or fluid breaks through and invades the normal peritoneum. Pus contained in the so-called peritoneal cavity gives rise to no greater general septic absorption or septicæmia than the same amount of pus produced by the same micro-organisms would in any other part of the body under the same pressure.

DR. MACVITT asked if Dr. Warbasse found reversed peristalsis and fecal vomiting in this condition.

DR. WARBASSE replied, always. When a peritonitis has developed and caused a paralysis of the bowel involved, there is just exactly the same degree of fecal vomiting as we see when there is a complete obstruction due to carcinoma, volvulus, bands or any other completely obstructing condition. All of us who see these frightful cases of peritonitis which come to the hospital too late are familiar with the fecal vomiting, and all of us have made mistakes of diagnosis and opened the abdomen in these cases for acute obstruction when it turned out to be peritonitis, and we all know how difficult it is in a case which we have not seen develop under our own eyes, when it has reached this state of peritonitis with obstruction to say whether there was an obstruction which preceded the peritonitis, or whether the peritonitis preceded the obstruction and is the cause of it. In both cases there is fecal vomiting, and every one of the classical symptoms of acute obstruction. A few days after the inception of the conditions it would be difficult to determine from outward inspection whether a case had had a string tied around the intestine, or whether it was a case of acute peritonitis—the clinical picture would be the same in these two cases.

## SECTION ON PEDIATRICS.

DR. GEORGE F. LITTLE, Chairman.

JOHN R. STIVERS, Editor.

The fifty-seventh regular meeting of the section was held at 1313 Bedford avenue on May 24, at 8.30 P. M.

DR. ARCHIBALD SMITH exhibited a patient, a child seven years of age, in which a diagnosis of tumor of the brain had been made. Syphilis had been acquired from a wet nurse. Under mixed treatment the brain symptoms were rapidly disappearing.

DR. L. C. AGER gave a brief review of the cases reported in the *French Journal of Medicine*.

The paper of the evening was on the subject of "Head Injuries in Children," by Dr. Wm. A. Northridge.

There was a general discussion of the subject following the paper.

## THE BROOKLYN GYNECOLOGICAL SOCIETY.

STATED MEETING, JUNE 2, 1905.

The President, W. J. CORCORAN, M.D., in the Chair.

## DYSPPNŒA OF CARDIAC DISEASE DURING LABOR RELIEVED BY BLOOD LETTING.

DR. J. O. POLAK related the case of a woman, 30 years of age, married, and supposedly eight months pregnant. During her entire pregnancy careful watch was kept of the urine by her husband, a physician, and the quantity kept up to 50 ounces. The specific gravity ran along at 1018 to 1022, no albumin. This patient has suffered for the last four years from a mitral stenosis, which at one time was non-compensatory. She was obese.

Ten days ago she developed the following train of symptoms: Precordial pain, great dyspnoea, epigastric pain, nausea, puffing of the face and edema of feet. The urinary secretion continued at 50 ounces, but albumin appeared in considerable volume; the specific gravity remained high. The heart, which up to this time had been fair, suddenly became extremely rapid and irregular; she was bathed in profuse perspiration and had all the symptoms of cardiac failure. He saw her in consultation with her husband and

another physician that morning; they decided that the thing to do was to empty the uterus. While they were down stairs she had a labor pain and the membranes ruptured. The pains continued, and they decided to stimulate her and allow the labor to go on. This was about ten o'clock in the morning. Under the use of hypodermics of strychnia and morphia she was carried along until the afternoon, having good, regular pains, and about 5.20 the cervix was fully dilated. It was a breech presentation. They had little difficulty in getting down a foot, but the trouble came in delivering the patient, that is, she could assume no posture except the upright one, with comfort. The recumbent posture was attendant with cyanosis and collapse that was appalling. The doctor remarked that if any one had ever tried to deliver an aftercoming head in the upright posture he could appreciate the difficulties that were experienced in handling this case. When Dr. Polak reached the house in the afternoon to meet these gentlemen, one leg was well down and the breech was pretty well out, and the woman was being held up in a semiupright position. Her respirations were 70, her eyes were absolutely fixed, she could see nothing, and her extremities were bathed with cold perspiration and she was pulseless at the wrist.

The point Dr. Polak wished to bring out was the benefit derived from blood letting in this particular case. He made a transverse incision in the cephalic vein and removed several ounces of blood. This with inhalations of oxygen permitted them to lay the woman down, and changed the whole picture of the case. Instead of her extremities being bathed with cold perspiration she had dilated vessels in her extremities and her respiration dropped from 70 to 52 a minute. The attendants were then able to finish the delivery, and the woman made an uneventful recovery.

The doctor stated that in these mitral heart lesions there is a very great danger in letting the women go to term. They do not die during the first stage, but they show bad signs during the second and particularly during the third stage of labor. You can anticipate that by inducing labor a month beforehand in the first place and relieve the overloaded right heart by blood letting, after the expulsion of the body, and so prevent the collapse that occurs so frequently during the third stage.

(Continued in September number.)

# Brooklyn Medical Journal.

WILLIAM C. BRAISLIN, M. D.  
Editor-in-Chief.

JAMES MCF. WINFIELD, M. D.  
JOHN A. LEE, M. D.  
Associate Editors.

CLARENCE R. HYDE, M. D.  
Medical News Editor.

G. L. HARRINGTON,  
Business Manager.

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## HYGIENIC TOPIC EMPHASIZED BY PRESIDENT ROOSEVELT.

The meeting of the Associated Physicians of Long Island at Oyster Bay on July 10, was a well attended convention.

It was held in the home village of President Roosevelt, and, accepting the invitation to be present, he seized this opportunity to generously commend the work of Major-General Leonard Wood at Santiago de Cuba. He also referred to the part performed by doctors in the prosecution of the work of the canal on the Isthmus.

It is a mark of the President's versatility that he has already at this early stage of the work on the Isthmus, recognized the vast importance of that phase of it which comprises the prevention of disease and the preservation of the health of the men employed in the digging of the canal.

Serious epidemics of disease there would be a serious drawback; they would likely cause a great outcry of mismanagement; but the President's idea seems to be to prevent every possibly preventable case of illness.

The surgeons in charge at the Isthmus will find many problems to face in the course of their work, some of them new and, as yet, unsolved. The occasion which the work will afford to American surgeons is, therefore, of unusual attractiveness, and there will be unsurpassed opportunities for the first-hand investigation of tropical diseases, at present, nowhere else obtainable.

The physicians on the Panama Canal will, no doubt, meet with discouragement at times. It

may not be supposed that such a work can be effected without loss of life from diseases endemic in a tropical climate. The work has to be done; portions of it in a rough and ready way. The heavy loss of life, however, which is occasioned by progressively increasing malignancy, with which tropical diseases sometimes attack the unacclimated white man, can doubtless be prevented. The knowledge of tropical hygiene and locally endemic fevers will be greatly broadened before the canal is completed; it may be that chairs of tropical diseases will eventually find place in our college curriculums. But, for the present, the deliberate and conscientious application of the knowledge of these diseases now possessed by our surgeons will prevent the epidemics of disease which have proved so fatal in former times.

In connection with the work of the American army surgeon in Panama, it is necessary to consider the field record established by the performances of the Japanese army surgeons in preventing diseases. It will be difficult for our surgeons to match this record in their work in Panama. It is not only that the tropical service is more difficult, in that, in the latter case, the fight with disease is one within a practically permanent camp, but that the morale of the men employed in an industrial capacity is unlike that of men engaged in a national campaign of aggressive warfare. More, the authority of our army medical man is, apparently, much less absolute than that of the Japanese surgeon; in fact, his authority is comparative, merely. This constitutes the weakest point in the present army medical service. The surgeon's authority upon matters of hygiene and the prevention of disease should be absolute at all times, except in the case of such details as might interfere with the duties of the men as workmen or as soldiers.

Almost every drawback can be overcome, however, in spite of red tape, except the quality of *preparedness* of which the Japs have shown themselves so appreciative. The surgeon on the Isthmus who can show in his monthly records the smallest number of cases of death and illness among the men under his charge will probably be he who has gone there with the most thorough preparation and knowledge of the conditions he is likely to meet with.

The Government might, with wisdom, demand that its surgeons sent to Panama have had special training which would best fit them for their positions.

# A POSSIBLE SOURCE OF CONTAGION IN THE EXCHANGE OF MINERAL-WATER BOTTLES.

It has, recently, repeatedly happened that harm to the consumer of mineral waters and bottled beverages has resulted through the carelessness of manufacturers.

For example, the refilling of a bottle with ginger ale which had been used by a photographer for a poisonous developing solution and resulted in the death of one person and the illness of several, caused a one-day scandal. The manufacturer, in his own defense, claimed that the photographer was at fault in leaving poison in the bottle. Responsibility for the absolute cleanliness of bottles used for the storing of potable liquids *was not assumed* by the manufacturer.

Carelessness in this regard may be more widespread than is generally supposed. Unless the makers exert themselves to secure cleanliness of the containers there is cause for considerable alarm, since not only the inside but also the outside of bottles imperfectly cleaned may prove harmful. Vichy and seltzer bottles, for example, are often carried into sick-rooms where contagious illnesses exist, and should invariably be thoroughly sterilized between each refilling. The condition of the paper label on the outside of these bottles often shows, however, that this has not been done. We take the liberty of referring this matter to the local Boards of Health, since the examination of the conduct of bottling establishments falls within their jurisdiction.

## OBITUARY.

### WALTER BRYAN, M.D.

WALTER BRYAN, A.M., M.D. Born in the city of Brooklyn in 1867 and died in New York City on June 26, 1905. His early education was received in the schools and colleges of this city; his medical education was conducted at the University of the City of New York, receiving the degree of M.D. in the class of 1890. Engaged in private practice in Brooklyn until 1903 when he removed to New York City. Dr. Bryan was married on September 4, 1895, to Miss Carrie Browne, of Brooklyn, N. Y. The doctor was on the staff of teachers of the College of the City of New York and at the Brooklyn College of Pharmacy. He held the following positions, 1896-1900: Instructor in materia medica, botany and pharmacognosy, assistant professor, 1900-1903; 1903-04, profes-

sor of physiology and hygiene; 1904-05, professor of physiology and toxicology. Dr. Bryan was a member of The Medical Society, County of Kings, 1891-1905; New York State Pharmaceutical Society, and the American Association for the Advancement of Science. Medical papers: 1899, "A Science Crippled by Wards;" 1900, "Botanical Nomenclature;" 1901, "The Digestibility of Artificial Emulsions."

WILLIAM SCHROEDER, M.D.,  
*Chairman of the History Committee.*

## MEDICAL NEWS.

EDITED BY CLARENCE REGINALD HYDE, M.D.

*It is earnestly hoped that all members of the profession possessing news concerning themselves or their friends, which would interest others, will communicate the same to the News Editor before the 9th of each month. Items for this department should be sent promptly to Clarence Reginald Hyde, M.D., 126 Joralemon Street.*

Dr. P. Chalmers Jameson, of Montague Street, has gone abroad.

Dr. Charles P. Frischbier, of 865 Halsey Street, announces his marriage to Miss Anna Stagg, the twenty-second of June, 1905.

Dr. Algernon T. Bristow, of 234 Clinton Street, sailed for Europe, July 8, with his family. He will return September 18th.

Dr. Charles Jewett, of 330 Clinton Avenue, is at present touring the West, and intends to be present in Portland, Oregon, during the meeting of the American Medical Association.

Dr. William F. Campbell also attended the meeting at Portland, incidentally stopping on the way to view the Yosemite and Yellowstone.

Dr. William E. Butler is summering at Huntington, L. I., instead of Shelter Island, coming to the city Tuesdays and Fridays for office hours here.

Dr. and Mrs. John O. Polak, of 287 Clinton Avenue, will sail August 12th, on the Steamship New York, for a two months' trip in Switzerland. The Doctor will resume practice October 20th.

Dr. John A. McCorkle recently journeyed to Ohio to visit relatives. On his return to Brooklyn he sailed for Sweden, where he will spend August, touring and sightseeing. Drs. George McNaughton and Gordon Hall will accompany him.

Drs. Frank West, R. L. Dickinson, R. H. Pomerooy and W. F. Dudley have cottages at Westhampton Beach for the summer. Dr. Dickinson has built a very unique Japanese house on the dunes, which he has artistically furnished à la Japanese, a jinriksha even being included in the appointments.

Baron Gustave Tosti, M.D., L. I. C. H. (1904), who, as vice-consul and for the past two years Italian consul, has been a resident of New York City for ten years. He recently went to Boston to take charge of Italian consular interests there. The Baron has passed the State Medical Examination but does not intend to practice as he wishes to devote himself to psychological researches. He is a member of the County Medical Society of New York and of the Neurological Society. He is well known through his articles in the *North American Review* and other periodicals, and is one of the founders of the Dante Society in America. His is an unusual record for a foreigner.

On the advice of the Mexican Board of Health, the government has issued an order for the daily disinfection of confessionals in all the churches of the capital. Priests neglecting the order are subject to fine and imprisonment. It would be difficult to say whether any of our contagious epidemics have been propagated by means of the confessional. Yet it would not be unwise to occasionally disinfect them, especially in churches in thickly populated tenement districts, where quarantine is bound to be lax.

The State Board of Regents has made the following appointments to State boards of examiners:

Medical—Dr. George R. Fowler, of Brooklyn, and Dr. A. Walter Suiter, of Herkimer, representing the Medical Society of the State of New York; Dr. W. B. Gifford, of Attica, and Dr. John L. Moffat, of Brooklyn, the State Homeopathic Society; Dr. Arthur R. Tiel, of Matteawan, and Dr. John P. Nolan, of New York, the State Eclectic Society.

Dental—Dr. William C. Deane, of New York City, and Dr. A. M. Wright, of Troy.

Veterinary—E. B. Ackerman and C. E. Clayton, of New York City; Thomas F. O'Dea, of Saugerties; William H. Kelly, of Albany, and A. G. Tegg, of Rochester.

Miss Annie Damer, of New York City, was appointed a member of the Board of Nurse Examiners, and Henry R. M. Cook and Arthur W. Teele, of New York City, were appointed to the

State Board of Examiners of Public Accountants.

At its recent commencement, Yale conferred the degree of Doctor of Laws on Dr. Abraham Jacobi, of New York City. To Dr. Samuel W. Lambert, '80, and Dean of the Medical Department of Columbia University, was given the degree of Master of Arts.

The J. H. Williams Co., makers of drop forgings, whose large factory is in the Red Hook Point district, has completed its new building. One point in the construction of this new building will interest medical men. A good-sized room has been selected for a "hospital room" and elaborately fitted up with all necessary medical and surgical appliances for the treatment of minor wounds. Dr. William M. Hutchinson, of Clinton Street, has had the supervision of the fittings of this room, which is distinctly a place to which emergency cases can be brought. As is well known, injuries are common in this large factory, owing to the nature of the work. The company thought that nothing was too good for its injured men, and that at least they could be properly cared for during the arrival, if necessary, of the ambulance.

"*Surgery, Gynecology and Obstetrics*" is the name of the new magazine which is to be published monthly by an organization of Chicago medical men. Its editorial staff contains the names of such men of note as Nicholas Senn, John B. Murphy, J. Clarence Webster, E. C. Dudley, and John C. Hollister. The journal is financed by a stock company of Chicago physicians and has no connection with any other commercial enterprise. It will be published solely in the interests of the medical profession.

The death of Dr. A. Palmer Dudley, of New York City, in London, removes one of our best-known gynecologists. His death from phthisis was a surprise to his many friends. Dr. Dudley possessed a most genial and lovable manner which won for him his deserved popularity. He was an exceedingly independent thinker in his own specialty and an ardent advocate of conservative work on uterus and adnexa. His presence will be much missed at the meetings of the Woman's Hospital and New York Obstetrical Society's meetings, where he took an active part in the program of all meetings and enlivened the discussions with his breezy method of debate.

At the annual meeting of the State Board of Medical Examiners of New Jersey, held at Long

Branch, N. J., July 5, the following resolution was adopted:

WHEREAS, The educational and examining standards for the medical license of New Jersey are at least equal in all respects to those of New York, and in some respects higher, and

WHEREAS, The degree of unreasonableness in the matter of interstate endorsement on the part of New York cannot be further ignored, therefore be it

*Resolved*, That on and after October 16, the date of the next regular meeting of this Board, the endorsement of medical licenses issued by New York will be suspended until further notice.

Members of the Board for 1904-1905 are: President, William H. Shipps, M.D., Bordentown; Davis P. Borden, M.D., Paterson; Treasurer, Charles A. Groves, M.D., East Orange; Edward Hill Baldwin, M.D., Newark; John J. Baumann, M.D., Jersey City; John W. Bennett, M.D., Long Branch; Armin Uebelacker, M.D., Morristown; Wm. Perry Watson, M.D., Jersey City; Secretary, E. L. B. Godfrey, M.D., Camden.

The new United States Pharmacopœia, published by J. B. Lippincott Company, has been recently issued. Changes in strength of tincture of aconite, tincture of veratrum and tincture of strophanthus, occur as follows:

The strength of tincture of aconite has been reduced from 35 per cent. to 10 per cent., and that of tincture of Veratrum from 40 per cent. to 10 per cent. The strength of tincture of Strophanthus has been increased from 5 per cent. to 10 per cent.

These changes have been made in order to conform to the standards adopted by the International Conference on Potent Remedies held at Brussels in September, 1902, the object being to make uniform the strength of potent remedies in all parts of the world.

## BOOK REVIEWS.

THE AMERICAN YEAR-BOOK OF MEDICINE AND SURGERY FOR 1905. Under the editorial charge of George M. Gould, M.D. Vol. 2, Surgery. Phil., Lond., W. B. Saunders & Co., 1905. 696 pp., 8 pl., 8 vo. Price: Cloth, \$3.00.

This year-book has long held a leading position among the works of this character. Its distinguished editor and his corps of collaborators guarantee the contents of this volume.

We note some changes in the editorial staff. Dr. J. Leslie Davis will have charge of the Department of Laryngology, and Dr. John S. Fulton, of Baltimore, the Department of Hygiene and Public Health. These

additions maintain the high standard of editorial efficiency which characterize this work.

It is impossible to review in detail the many important features of this volume. Suffice it to say that among the year-books it easily maintains its position of leadership.

WILLIAM FRANCIS CAMPBELL.

PROGRESSIVE MEDICINE. Vol. vii., No. 1, March 1, 1905. Phil. and N. Y., Lea Bros. & Co., 1905. 298 pp. 8 vo. Price: Paper, \$1.50; Cloth, \$2.25.

This volume treats of surgery of the head and neck, the thorax, acute infectious diseases and diseases of certain organs of special sense. The general plan followed in the discussion, review and criticism of these subjects is familiar to all who have had the pleasure and satisfaction of perusing progressive medicine and learning of its inestimable value to the progressive physician who is desirous of acquiring the latest information, but whose time makes it imperative that the great mass of medical facts shall be condensed, sifted, selected. *Progressive Medicine* does this, and does it well.

WILLIAM FRANCIS CAMPBELL.

GALL-STONES AND THEIR SURGICAL TREATMENT. By B. G. A. Moynihan, M.S. (Lond.), F.R.S.C. Phil., W. B. Saunders & Co., 1905. 13-386 pp., 9 col. pl., 8 vo. Price: Cloth, \$4.00.

No author is better equipped by nature and experience to write on this important phase of surgical work than Mr. Moynihan. He has produced a work of rare excellence, and made a real and important contribution to surgical literature.

On page 51 is found an epigram both terse and timely, "It is in surgery as in finance—much poverty and much paper may co-exist."

The author has given the profession a work that disproves his own epigram, for this volume will be found neither redundant or vacuous, but rich, replete and satisfactory.

WILLIAM FRANCIS CAMPBELL.

KIRKE'S HANDBOOK OF PHYSIOLOGY. By W. D. Halliburton, M.D., F.R.S., *Nineteenth Edition*. Phil., P. Blakiston's Son & Co., 1904. xix., 902 pp., 3 pl., 8 vo. Price: Cloth, \$3.00.

This nineteenth edition of Kirkes' Handbook of Physiology has been so extensively revised, practically rewritten, in fact, by Halliburton, that it essentially is, and should be entitled, Halliburton's Handbook of Physiology. It is one of the best of our smaller manuals, and is well suited to serve as a text-book for medical students. It covers the whole subject as taught in the medical schools of this country and of England, and even includes considerable material which is not, strictly speaking, physiology, but which is closely related thereto, and of value to students of physiology. I refer to the morphology (chiefly histologic) making up the greater part of Chapters II. to VII. (inclusive), as well as to that distributed through other chapters of the book, and to Chapter LIX., which is really a summary of embryology.

The book presents no notably original features, but, its histologic and embryologic portions aside, is a clear, matter-of-fact account of what is commonly taught as human physiology, though it is really, for the most part, derived vertebrate, with some invertebrate physiology.

Very few, if any, teachers of physiology are willing to endorse, *in toto*, any text-book, save perhaps their own; but, though in this one, as in most others, there are, here and there, statements to which some physiologists would file an exception, it is safe to say that most teachers would not hesitate to recommend it as a text-book.

The make-up of the book is all that can be desired for such a work, and the illustrations have been well chosen, are amply numerous, and very well executed.

J. C. C.

# BROOKLYN MEDICAL JOURNAL

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## ORIGINAL ARTICLES.

### TEACHING METHODS IN GYNECOLOGY AND OBSTETRICS.

BY CHARLES JEWETT, M.D.

Professor of Gynecology and Obstetrics,  
Long Island College Hospital.

In obstetrics and gynecology, as in most other departments of medicine, no present-day system of teaching is complete which does not include practical as well as didactic instruction. Text-book and lecture must be supplemented by demonstration and practice. The former are essential to a comprehensive and systematic conception of facts and principles; the latter, to a working knowledge of them.

So far as possible it is best that both plans of instruction go hand in hand in parallel courses. It is a distinct gain for the student if text-book and *viva voce* teaching can constantly be elucidated and enforced by objective illustration. Facts and methods are more easily learned and more firmly fixed in mind by observation. Every physician knows how much greater interest a subject acquires when studied with a case in hand. So it is in equal degree with the medical student. The pursuit of knowledge is no longer drudgery when the teaching is by object lessons. The practical work is most instructive when it runs *pari passu* with the didactic course.

#### THE LECTURE.

The cramming process of the medical lecture room to the exclusion of other methods has long since passed. Yet the didactic lecture has its uses. It may be made especially helpful to the beginner who, perhaps, from lack of training, is ill able to analyze his subject for himself, and to whom the text-book too often presents little more than a confused mass of facts. Salient points are made prominent and a broad and well systematized grasp of the subject is more readily assured than by dependence on books alone. Yet lecture and text-book must be combined. The lecturer is fortunate who can place in the hands of his class his own lectures in book form, or at least a syllabus of them. Where this is not possible, a well-ordered syllabus of each lecture, arranged in tabular form with reference to

proper subordination of topics, and written upon the blackboard, is a material help. With such aids the student not only more readily masters the subject but he gets methodical habits of thinking and working and learns how to grapple with new questions.

The teaching value of the lecture is greatly enhanced by demonstrative methods. Drawings, photographs, charts, models, and especially demonstrations with the aid of phantoms, and, when possible, with clinical material, are extremely useful for supplementing, elucidating and indelibly fixing what is taught. They help immensely in fastening the attention of the listener.

Objective illustration is invaluable not only as an easier road to knowledge, but because it imparts the kind of knowledge the gynecic surgeon most needs to know. It familiarizes him with the actual facts of practice. Demonstrations, the exhibition of instruments, models of dry and of wet preparations, are an essential part of the work in lecture and recitation.

The obstetric and gynecologic department of the medical college should be well equipped with material for illustration, such as dried preparations of normal and deformed pelves, or models of the same, wet specimens of the pelvic viscera, gravid uteri with the ovums *in situ* and representing the various stages of development, embryos, foetuses, placentas and detached ovums in the different months of growth, together with specimens of all pathologic conditions of genital organs and foetal structures.

#### THE QUIZ.

The student's mental pabulum needs not only to be well prepared and properly served, it must be digested. To make sure of this is pre-eminently the work of the quiz. A mere catechism, which calls only for the memorizing of facts, is by no means all that must be aimed at. A well directed quiz stimulates to think, to reason; it helps the student to organize his knowledge to digest and assimilate what he has learned. Even more—part of the pupil's knowledge he may be taught to build for himself out of the material he already has.

An expert quiz master keeps attention alert; class as well as teacher are kept at work. One



man's question is every man's question and all work together. In both didactic and clinical teaching systematic quizzing is of the greatest value.

#### CONFERENCES.

In the conferences a hypothetical case is submitted a week in advance for discussion by the senior class. A part are appointed to open the debate, and all prepare themselves to speak upon the salient features of the case, especially upon questions of diagnosis and treatment. The reference library of the college, in addition to the text-book, affords means for collecting material. Toward the close of the hour the views presented are commented upon and criticised by the instructor. Properly conducted, the value of the conference is self-evident.

#### PRACTICAL TRAINING.

The most important advance in modern medical teaching lies in the greater attention paid to practical training. In none of the arts is experience more essential to success than in medicine, and especially is this true in obstetrics and gynecology. A man may be learned in the science, yet from lack of practical bent may fail in the art.

#### MANIKIN TEACHING IN OBSTETRICS.

Eminently essential to a working knowledge of obstetrics is a course of manikin and bedside teaching. Here the student is schooled in the everyday experiences of practice. He gets both manual and mental training.

The more important mechanical phenomena of labor, and most of the technical methods employed in obstetric procedures are taught on the phantom. Maternal manikins are provided, each in a room large enough for a section of eight or ten students. Foetal cadavers, preserved as for dissection and kept in alcohol, are used instead of foetal manikins. Foetal skulls, dried pelvises, rubber uteri, pelvimeters, and other obstetric instruments and appliances for teaching are provided. The walls are hung with drawings, charts, and with a full schedule of the manikin work. The teaching is done by a special staff of five instructors. The student is drilled in diagnostic methods, and in the various obstetric manœuvres.

The foetal skull is placed in the dried pelvis in the different positions under cover of a sheet, and the student is required to make the diagnosis of position by the touch. Then manikin and foetal cadaver are substituted for pelvis and skull, and he learns to distinguish the presentations and positions of the foetus, both by abdominal and vaginal examination.

He is next practiced in the use of forceps, in the operation of version, in breech extraction and in various other obstetric procedures. He is required to do for himself, being constantly quizzed by the instructor, and his manipulations criticised and corrected.

#### OBSTETRIC WARD-WORK.

After becoming well grounded in the manikin work, the sections are admitted to the lying-in wards. Here, too, as far as possible, a definite plan is followed. The schedule begins with the signs of pregnancy. The mammary, the abdominal and, in some measure, the vaginal signs are familiarized by actual observation and experience. The student inspects, palpates and auscultates for himself, in accordance with a definitely prescribed plan, and is called upon to tell what he observes. He studies the mammary changes in their varying phases, becomes fairly proficient in the diagnosis of pregnancy by the abdominal and to some extent by the vaginal signs, in determining the presentation and position of the foetus by the external examination, and in pelvimetry. The phenomena and management of the puerperium, mensuration of the foetus and the care of the new-born, are studied in like manner. A section of the class is present at labors; the course and conduct of childbirth are demonstrated, and so far as practicable students are permitted to participate in its management.

#### OUT-PATIENT OBSTETRIC PRACTICE.

The hospital work is supplemented in the out-patient service in which, under direction of a special staff, women are attended in confinement at their own homes by members of the graduating class. This division of the teaching force numbers seven. The student, under guidance of his instructors, makes the ante-partial examination, conducts the labor and follows the course of the case through the puerperal period. On dismissal of the patient he fills out a printed form of case-record which is filed with the chief of clinic. This latter requirement not only enforces greater attention to scientific detail in practice, but it helps to form the habit of accurate observation and of keeping minute and orderly clinical records.

#### GYNECOLOGIC DIAGNOSIS.

Advanced students in sections of four are drilled in the diagnostics of gynecology by actual practice in the dispensary. Two clinics are conducted daily in adjoining rooms. Each room is equipped with an examining table, a cabinet of

instruments, a sterilizer and other requirements for the work. The first stage of the clinical course is history taking. One student in each clinic keeps the case-records, the other learns diagnostic methods. Before completing the practical course he conducts examinations for himself, his findings being discussed and revised by the adjunct gynecologist on duty. An additional and more elaborate practical course in diagnosis is carried out by the chief of clinic following a prearranged order of topics.

This part of the teaching is still further supplemented in the operating theater. At operation demonstrable conditions are constantly utilized for the instruction of the class. In suitable cases a small section of students, after preparing their hands and putting on operating gowns and rubber gloves, make digital examinations. A good number of the class show a gratifying degree of diagnostic ability by the time they have completed the curriculum.

#### GYNECOLOGIC OPERATIONS ON THE CADAVER.

Formerly a certain amount of plastic work was done by the student with the aid of phantoms, some made of cotton flannel, others of glue jelly. This, for the most part, has been replaced by a course in operative gynecology upon the cadaver, which includes the principal gynecologic operations upon the pelvic viscera and also the incisive operations of obstetric surgery.

#### SURGICAL CLINICS IN GYNECOLOGY.

In the operating theater of the hospital the essential steps of operations are demonstrated as far as possible, and technical methods explained and illustrated. Members of the class in small sections and with the necessary precautions are admitted to the arena where the details of the work may be followed more closely. Another section watch the giving of the anesthetic under the instruction of the lecturer on anesthesia.

Students also visit the wards and may observe the after-care and treatment of patients whose operations they have witnessed. They are enabled to keep complete records of cases which they have studied in the dispensary service, have followed to the operating room and watched throughout their convalescence.

Such, in brief, is the system of teaching at the Long Island College Hospital. It is carried out by a corps of little more than twenty instructors. Students graduate not only with a more fully rounded knowledge of the subject, but with a practical fitness in ~~striking~~ contrast with the results of earlier days.

#### THE MAKING OF A SURGEON.

BY GEORGE RYERSON FOWLER, M.D.

Professor of Surgery, New York Polyclinic (Emeritus.)

When a master seeks an apprentice, if he be in love with his work and earnestly seeks to initiate him who is to follow in his footsteps, he will select one whose intelligence, as well as knowledge already gained, fits him for the calling in hand. When such a selection is made, the master sets himself about the task of making a craftsman of the material furnished him.

He does not commence by delivering himself of a flow of words, at certain stated intervals, that have little meaning to his apprentice. He knows full well that his own and the apprentice's time will be wasted, and that every hour thus spent will not only be profitless, but will tend to detract from the interest that his apprentice takes in the work. Even though the master be an accomplished lecturer, and deliver himself with the aid of the simplest notes, yet will the labor be in vain. If he seeks to make a craftsman, he will keep before the apprentice the best examples of the results of his handicraft, and by precept and example seek to imbue his receptive mind with the different steps of the processes whereby the final and complete machine is produced, and guide his hand through the simple and finally to the intricate stages of the workmanship.

If, as in the modern methods of making skillful workmen, the apprentice enters the temple of his chosen calling through the industrial school and a course in mechanical engineering, he will have learned the physical properties of metals, their behavior under varying conditions of heat and cold and the theories of tensile and cross-strain; of environment that hastens deterioration as well as the evidences of the presence of the latter, and the means of ensuring prolonged service. All of these he will have learned in the recitation room and in the laboratory, supplemented, as time goes on, by practical demonstrations at the forge and at the bench and vise.

But all the knowledge gained of the qualities of metals, from the rough chemistry of the mines to the delicate manipulation of the crucible in the assaying room, will not make a machinist of the apprentice any more than will a knowledge of how best to cultivate trees make a cabinet maker. While with this knowledge combined with the acquirement of the manipulative skill to fashion a locomotive or a watch a master workman is produced, the one without the other produces in the one case a theorist without practical application

when the actual work is to be done, and in the other case a mere human machine.

With his store of theoretical knowledge the apprentice must first fetch and carry. He must clean the rough castings, mingle with the more advanced apprentices, and now and again adjust a bolt and tighten a nut. He is taught how to use his hands and brain in combination, and with his fundamental knowledge of the principles of the craft, and learning by actual doing under the eye of the master mechanic or of that of an advanced craftsman, he passes on from the simplest to the most complicated tasks of the art. From this time on his course is one of constant progress toward a higher plain of efficiency, until, with the development and exhibition of added qualifications of loyalty and resources he becomes the trusted director of the master's work. Finally, with ripened mind and trained hand he develops into an original thinker, a chief craftsman, a leader of his fellows.

Turn we now to the making of a surgeon. Time was when the professor of surgery, entering the lecture room, bowed formally to the assembled students with scarcely a familiar face confronting him. He proceeded to drag his audience after him as he waded through the hour's discourse, either reading from the copied pages of some so-called authority, or reciting from memory reinforced by the well-worn notes of previous and similar didactic efforts. Here and there a more industriously inclined student busied himself taking notes of what he conceived to be the important points of the subject. Others attempted by a fixed stare to prop up the unwilling eyelids, while others again yielded to the seductive wooings of Morpheus until awakened by the formal applause that marked the end of the hour, and that was intended less for appreciation of the lecturer's efforts than for relief of the hum-drum environment. Add to this a knowledge on the part of the more knowing ones that the professor's grasp of the subject lectured upon, which, for instance, is that of the treatment of wounds, is less than his knowledge of the puerperal dose of ergot, and the farcical character of the whole performance is glaringly apparent.

The only relief of this tedium was the clinical lecture, delivered perhaps twice a week, in the hospital amphitheatre. The latter was crowded from floor to dome with students in every stage of development, from first-year pupils to gray-beards taking a postgraduate course, these watching a spectacular performance in which an anesthetized patient and a flourish of instruments

figured prominently. Those in the front row only knew what was happening, or heard what the professor said. As to the history of the patient and his subsequent fate only the hospital records could speak, and these gave forth no hint.

And so the average medical mill ground out its yearly grist of surgeons! What with the spirit of commercialism and the curse of cliqueism to sap its vitality, and the absence of community of interest of the professional staff to bar the march of progress, it was reserved for the didactic lecture and the spectacular clinic to hold the medical college up to the ridicule of the educational world. From its walls the medical student stepped forth with a rudimentary and superficial and wholly theoretical knowledge of the science and art of surgery. Perhaps, after years spent in general practice, and if his line were cast in places where it was necessary for him to cultivate surgical skill, it might happen that he would develop the essential qualifications of a successful surgeon. In this, however, he would be handicapped by the absence of the guiding hand of a master, although the advantages of a previous large experience in general practice to the surgical practitioner are not to be underestimated in this connection.

The student of surgery should be one whose tastes, inclinations and interest lead him in the direction of this special field of work. In selecting this branch of the profession he should remember, however, that the internist is in much greater demand than the surgeon. If he is attracted by the glare of the footlights and the brilliancy of the stage-setting that seems in the mind of the average student to go along with a successful surgeon's career, let him have a care, lest the tragedy is far too real to his liking; that the tinsel of the stage is not exchanged for the sombre drappings of woe; that the smiling audience from whom he expected plaudits of praise is not changed to a group of grief-stricken mourners; that each expiring footlight does not mark the needless sacrifice of a human life; and, finally, that he does not feel the remorse of that other Judas who betrayed his trust for greed of gain.

Teachers of surgery are born, not made. The qualifications needed to make a successful instructor usually develop early in the life of the one who is to become a leader and teacher. These qualifications are more easily recognized when present than described. They consist in the main of an ability to recognize and grasp the important points of a subject, to arrange these systematically and in the order of their value, and to present them in an intelligible and attractive manner.

As to the methods of imparting instruction, class-room conferences and recitations may well replace the didactic lecture and general faculty quiz; section work at the hospital should take the place of the public clinic, and the surgical laboratory should supplement the operative work on the cadaver. These should constitute the modern methods, in addition to the curriculum of the medical course in general, for the making of a surgical apprentice.

Too much importance cannot be attached to the work in what I have here termed the surgical laboratory. This department, now practically limited to experimental and original research work, should be employed as a part of the routine teaching in every medical college. Here the modern methods of applying the principles of aseptic and antiseptic surgical technic, the administration of anesthetics, trephining and exploration of the intracranial organs, operations on the eye, tracheotomy, resection of ribs, operations on the abdominal organs, particularly the technic of gastrointestinal operations, and the ligation of arteries should be taught, with the lower animals as subjects. Here the provisional and definite arrest of hemorrhage may be practised, the causes and prevention of shock investigated, the phenomena of destructive and reparative processes studied, and the uses of instruments learned. Markings should be instituted based on accuracy of observation, manipulative skill, and rigid attention to details. Upon the basis of these markings a selection of those who are fitted to become surgical apprentices should be made.

Following the laboratory course as above outlined, the surgical apprenticeship of the medical student should commence. He should fetch and carry, adjust a bandage here and replace a dressing there. His workshop is the out-patient surgical department of the hospital, or the surgical clinic room of the general dispensary.

The next step of his apprenticeship is marked by his appointment to the surgical interne staff of a well-equipped hospital, and, if possible, one the work in which exclusively, or at least largely surgical. For the cultivation of the surgical mind the atmosphere and environment of the daily routine of work should be surgical. A mixed service is not the best for hospital internes, and this is particularly true for the surgical interne.

The different grades of service as a hospital interne mark the further progress of the apprenticeship of the surgeon. Step by step he advances, each advance being marked by new duties and

increased responsibilities. From the care of cases of lesser importance he passes on to those of the most serious, and from assisting at minor operations to the performance of the latter, and thence to the operating room—all these are too well known to be dwelt on here. With this advent as the senior member and responsible head of the surgical interne staff comes the *experimentum crucis* of his surgical career. It is here that he must show that combination of prompt judgment, resourceful energy, and loyalty and devotion to duty that is the hall-mark of the true surgeon. Under the watchful eye of the master his surgical virtues and shortcomings are equally revealed and his future shaped accordingly. The first-named inspires confidence and impels his chief to entrust important emergency work to his care; the second awakens constant distrust and anxiety in the mind of the responsible head of the service.

Finally, his apprenticeship ended, he sets forth upon his life's journey. Here we must leave him. And as the *vale* springs to the lips of the master, the injunction of the great bard of Avon may well be spoken:

"This above all: To thine own self be true,  
And it must follow, as the night the day,  
Thou canst not then be false to any man."

Dr. Beverly Robinson in *N. Y. Med. Jour. and Phila. Med. Jour.* for June 3, 1905, states that in cases of perforation of the stomach from any form of ulcer of any duration, the formal indication is to operate. The sooner the operation is performed, the better the chances of saving life. Cases of cure without operation are known, but are infrequent. The cardinal principles governing the medical treatment of declared gastric ulcer are (1) absolute or relative rest, mental and bodily, if possible; (2) the use of rectal feeding in a measure or altogether, and the partial or complete relief of stomachal digestion, at least for a time. He emphasizes that gradual return to feeding, with much care and many limitations should later be conuseled and enforced, and whenever anemia is notably a factor in the make-up of the disease, its special treatment should not be ignored.

Hemorrhage and perforation are the two complications of gastric ulcer most to be feared. Absolute rest in bed should be insisted upon, and no nutriment allowed excepting by the bowel. Cold applications to the epigastrium are indicated.

In the repeated use of a solution of adrenalin hypodermically, we have a potent remedy.

**THE CURE OF CARCINOMA OF THE BREAST.**

BY LEWIS STEPHEN PILCHER, M.D.

Breast carcinoma presents a very favorable field for the study of therapeutic possibilities. The disease in this location is of frequent occurrence; the tissue primarily affected is deep-lying but at the same time as susceptible by palpation and vision to as constant and accurate knowledge of its progress as if it was absolutely superficial; the lymphatic channels which lead from it are definite and well understood, and the lymph nodes in which occur the first metastatic developments are equally as accessible to operation, as the gland containing the parent growth. Concealment or error as to the real conditions present in a given case are therefore impossible. Unlike carcinoma involving the digestive or urinary tract, its cause is not complicated by the irritation of continued function nor by the results of impaired function. The feebler malignancy of the superficial carcinomata developing from epithelium of the squamous type is unfortunately not shared by breast carcinomata, which in their tendency to rapidity of growth, to invasion of adjacent tissues and to the formation of metastases are typical of the most virulent forms of the disease in any part of the body.

On the other hand, the breast lends itself with less disadvantage than any other part of the body to absolute extirpation, and the possibility of extending surgical attack to adjacent tissues and of following to a great distance the lymph vessels and nodes without inflicting serious damage to functions or incurring serious risk to life is such as to make available the highest degree of thoroughness in operative attempts to remove the disease and to secure permanent immunity from further growth.

In carcinoma of the breast, therefore, we possess an ideal test type of the disease, carcinoma, by which to measure the efficiency of methods and agents that may be proposed for its treatment. For this reason breast carcinoma still retains a special interest and I have determined to bring it up for discussion again at this time.

In a paper published by me in 1902, I analyzed the results obtained by operative attempts in fifty personally treated cases of primary breast carcinoma, and one of my conclusions then stated was that surgery could promise a very large proportion of absolute cures in such cases if its resources were employed as soon as the presence of the disease is determined.

Out of forty-three patients in whom a presumably complete operation was done, thirteen presented the least advanced type of the disease, viz., that in which no involvement of the pectoral muscles was apparent, and the involvement of the glands of the axilla was not great. In these cases ablation of breast and axillary contents and of the pectoralis major muscle (except in two cases in which this muscle was not removed) resulted in permanent cure in four instances—eleven to thirteen years having now elapsed.

In twelve other patients the involvement of the pectoral muscle or the invasion of the axilla was so much more pronounced that it was deemed best to remove the pectoralis minor muscle also, but without attacking the supraclavicular spaces.

Permanent cure resulted in four of these patients also. In my former report I credited this group with but three permanent cures. In one of the remaining patients there had developed an intra-abdominal disease which I then supposed to be carcinoma of the liver. More careful examination later, after the greatly distended abdomen had been emptied by tapping, revealed that the condition was ovarian, and by opening the abdomen a large, benign, multilocular cystadenoma of the ovary was removed, with subsequent perfect health to date, so that I can now make this more favorable report. In all but one of the eight patients of this class who were not permanently freed from carcinoma by my operations the development of supraclavicular disease was among the earliest evidences that the primary operation had been incomplete. Impressed by this I was led to open up the supraclavicular spaces in many instances thereafter, notwithstanding the absence of evident supraclavicular disease, and in nearly all such cases this incision above the clavicle revealed small nodules distinctly cancerous, though too minute to be detected by palpation when covered by intact fascia and skin. The entire number of cases in which the supraclavicular spaces were thus opened was eighteen, in ten of whom palpable supraclavicular nodes existed. Permanent cure has followed in three of these cases as demonstrated by nine, seven and five years, respectively, of freedom from recurrence. This also is one more case of cure than I claimed three years ago, due to the fact that a case in which a perceptible enlargement over the upper costo-chondral articulation of the affected side, which was considered then as due to recurrence of the carcinoma, has since been demonstrated to have been due solely to hypertrophy of the clavicular portion of the

pectoralis major muscle that had been left unremoved. The woman has remained well to the present date, now more than five years since operation.

This, then, was my record up to the year 1900. Previous to 1888 no permanent cures; from 1888 to 1900, 25% permanent cures.

During the years 1901 to 1904, sixteen more primary cases have been operated upon. Of these, in three instances the operation was frankly incomplete and was followed by speedy recurrence, except in one case which died on the table after an interscapulo-thoracic amputation.

Of the thirteen cases in which an apparently complete operation was done, five of them, at periods of from six months to two years, showed either regional or distant metastatic growths that had escaped the knife; all of these were systematically and for long periods subjected to X-ray treatment, with apparent retardation of the superficial growths in each case, but without effect upon the development of intra-thoracic or intra-abdominal metastases that terminated in death in from one to three years after operation.

Seven cases—54%—remained well when last heard from. What proportion of these may yet present recurrences time only can show.

Of this series of cases, in all but two the region above the clavicle was opened and all the gland and lymph vessels bearing connective tissue beneath the deep fascia in the subclavian triangle dissected out systematically. In the majority of instances, small but distinctly cancerous nodes, not appreciable through the skin and fascia, were brought to light by this incision and were removed.

Let me cite two instances.

*Case 1.* F. M. C., aged 53 years, whose grandmother, two great-aunts, one aunt and one cousin had all died of cancer—grandmother, cancer of rectum; others, cancer of breast—presented herself with an ill-defined induration of moderate extent in the left breast under the nipple. There were no palpable glands either in the axilla or in the supraclavicular space. Within three weeks of the time that the breast change was first detected, operation was instituted. The first operative step was the opening of the supraclavicular space at once. In the angle formed by the junction of the internal jugular and subclavian veins two small cancerous nodes were uncovered. In the axilla, also, when opened in a later step of the work, multiple affected nodes were found. The entire operation included cleaning out the supraclavicular space; cleaning out the axilla;

detachment at insertion of both pectoral muscles and their removal with the overlying breast and a like amount of the covering skin.

An uncomplicated convalescence followed. At present date, sixteen months later, there is no suggestion of recurrence and she remains perfectly well.

*Case 2.* M. M. A., aged 66 years; presented herself with an ovoid mass infiltrating the upper outer quadrant of the right breast, the presence of which had been known for four months. The overlying skin had become adherent but there were no enlarged glands palpable either in axilla or above the clavicle. Nevertheless the supraclavicular and axillary incisions revealed conditions nearly identical with those in the preceding case, just described. The same operative procedure was adopted, an equally uneventful and rapid convalescence followed. She presented herself recently for examination, eight months later, local and general conditions perfect.

These two cases are good examples of the most favorable cases for surgical effort that present themselves to the surgeon. They both came to operation at a fairly early period of the carcinomatous process. There were no evidences of supraclavicular involvement, and yet if this region had not been opened as a matter of routine, diseased nodes would have been left behind to ensure a perpetuation and extension of the carcinoma, and to make of no avail the extirpation of the breast.

A somewhat different but equally striking lesson was conveyed by the following case:

*Case 3.* S. M. B., aged 59 years; had been aware of the presence of disease in her right breast for eighteen months, but had concealed it even from her physician. When she finally presented herself for surgical aid there was a diffuse induration having its centre in the outer and lower quadrant of the breast; overlying skin adherent; nipple retracted; enlarged axillary glands palpable; no positive involvement of supraclavicular glands demonstrable. At operation axillary contents, pectoral muscles, breast and overlying skin were first removed. The extension of the disease to the nodes above the clavicle was demonstrated at this time, but it was not deemed prudent to continue the operation at that time and the wounds were closed. Five weeks later, full healing of the axillary and thoracic wounds having been secured, the base of the neck was opened, the clavicle was sawn through on either side of the insertion of the subclavius muscle, and the bone-muscle flap thus

formed turned down, exposing the entire area from the point where the axillary clearing out had ceased, to the point where the great vessels at the root of the neck descend into the mediastinum. Multiple infected glands were found in this region and were removed. The convalescence from this assault, otherwise favorable, was complicated by a limited necrosis from the isolated bone section. This determined a sinus, which persisted for some weeks until a necrotic splinter was exfoliated, and together with a wire suture, was discharged. Sound healing then took place. Good health without sign of recurrence finally resulted and has been maintained to date, a period of two and a half years.

The added experience of the last three years has corroborated the views expressed by me in 1902 as to the importance of opening the base of the neck as a part of the routine operative procedures in cases of breast carcinoma. The point of suspicion, the key to the whole situation, is the triangle at the junction of the subclavian and internal jugular veins, where rest the node or nodes to which run not only the lymphatics which pass up from the axilla, but also an inconstant but not infrequent set of ducts which run up on the front of the thorax from the mammary region to the base of the neck, down into which they dip after running over the inner end of the clavicle. The exposure of this space, while certainly a delicate procedure and requiring accurate anatomical knowledge, is neither difficult, nor unduly time-consuming, nor disfiguring. It adds but little to the gravity of the operation as a whole, least of all if no infected nodes are found that require removal, while if such diseased foci are found any added risk is more than justified. It is in the cases that come earliest to operation, also, that such investigation of the base of the neck offers the greatest advantage, for these are the cases that present the most hopeful field to a surgical attempt to get beyond all foci of disease in the work of extirpation. The life history of all deep-lying carcinoma involves so early in its course the lymphatic paths that extend from the regions involved that these must always rest under suspicion, however apparently early the primary growth may have been recognized, and the rational procedure is to always include in the extirpations done all such absorbent organs as far as possible without waiting for the development in them of gross evidences of disease. Just in measure as this practice has become adopted in the surgery of breast carcinoma have the results obtained been

more and more favorable as regards permanent cure. The steps have been, consecutively, the removal of the fascia covering the pectoral muscles, the systematic and thorough *évidement* of the axilla, the removal of the pectoral muscles, the increase in the amount of overlying skin removed. Add to these now, as a part of the regular procedure of attack, to be omitted only in exceptional cases in which adequate reason for the omission may satisfy the surgeon that it is best, the systematic *évidement* of the subclavian triangle, and there may be expected a still higher percentage of permanent cures.

The use of the X-ray in breast carcinoma has not been attended with any lasting benefit in the cases that have been under my observation, notwithstanding all the cases of recurrence observed during the past five years have been given the benefit of its application, made intelligently and perseveringly. Whatever its advantage in the case of superficial epidermoid cancers, it has no place in the surgery of cancer of the breast.

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#### CANCER OF THE STOMACH: THE PROBLEMS OF EARLY DIAGNOSIS AND OPERATIVE TREATMENT.

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The great importance of this subject may be appreciated when we remember that from 35 to 45 per cent. of all carcinomata occur in the stomach. No race, no sect, no occupation, and no age is exempt from it, though it does not often occur before middle age, and is rather more common in men than in women. Previous health and habits have little bearing upon the disease, as it develops in the abstemious as well as the intemperate, in the robust as well as the weak, although there is no question that a considerable proportion of cases develop on a gastric ulcer or on an ulcer scar. Napoleon, who died of gastric cancer, said that he had always had a stomach of iron until the onset of what proved to be his fatal illness. As in other organs, cancer of the stomach is increasing in frequency.

Surgery offers the only hope of cure in gastric cancer at the present time. As in cancer elsewhere, surgery undertaken for radical removal must be performed at the earliest possible day, while the disease is still local, and has not produced too wide lymphatic involvement or gone on to metastasis. Unfortunately, the difficulties of diagnosis of cancer within the abdomen are far



greater than in the cervix uteri and the breast, and the need for early radical removal even more imperative. Medical diagnosis has been disappointing as regards any positive findings in the early stage of gastric carcinoma and seems unlikely to prove of much help in furthering early radical removal. The medical practitioner must realize the frequent occurrence of the disease, and the great importance of early diagnosis, and must bring the surgeon to co-operate with him in the observation of suspicious cases. In early exploratory abdominal incision lies our chief hope at the present time of reducing the mortality from gastric carcinoma, and it should be employed in all suspected cases, after the medical means of diagnosis have been made use of without delay, and have positively failed to exclude cancer. An exploratory operation is often looked upon as a confession of ignorance, or an unwillingness to pursue an exhaustive inquiry with one's senses unaided by incision, but that ought not to be the case here. An exploratory operation here is conservative—if one may make use of that much misused term—and is practically without risk in cases of early cancer, not yet the victims of malnutrition.

The examination of stomach contents has been greatly discussed, and much claimed for it, in the diagnosis of carcinoma. Such examinations have little diagnostic value in the stage of the disease where radical surgery may be done, but they gain in importance as the disease advances, and when they become of greatest value it is too late to do more than palliative surgery. Free hydrochloric acid is absent, or nearly so, in 80 to 90 per cent. of cases of cancer of the stomach. But it is generally conceded that it is the gastritic process that accompanies carcinoma and that leads to atrophy of the gastric mucosa which is the cause of the loss of hydrochloric acid secretion. The hydrochloric acid decreases as the growth advances, and is therefore much less likely to be absent in the early stage, and in some cases—where carcinoma develops on ulcer—it is even increased in the early period. Considerable importance has been attached in late years to the presence of lactic acid in the stomach. This again is a late rather than an early symptom, as it will not appear unless the hydrochloric acid be greatly reduced. It also means stagnation of stomach contents, and this does not occur until the pylorus is encroached upon, or the motor activity of the stomach interfered with by the size of the growth when it originates in another quarter. The presence of the Boas-Oppler bacillus is

of no special importance in early diagnosis, as it is a lactic acid producing organism which is found only in stagnating stomach contents. Hemmeter has attempted to scrape or brush away fragments of growth from the stomach for microscopical examination, but it is quite unlikely that any portion of growth can be detached in the early stages. Examination of stomach contents may be very useful in the later stage of cancer, or in the differential diagnosis of ulcer, but neither this, nor methods of inflation, etc. for the detection of tumor can be of positive value in the stage of the disease where we may expect radical cure. As Robson has insisted, "Cancer of the stomach should be dealt with surgically before a tumor is clinically recognizable." It has been hoped that blood examinations might furnish a means of diagnosis in the early stage, but the diminution in red cells and hemoglobin, which is sooner or later present, is only that found in any secondary anemia. There is usually a moderate leucocytosis in cancer cases, and very frequently an absence of the so-called "digestion leucocytosis." As yet, however, blood examination cannot be said to have much value in the pre-cachectic stage.

It must be conceded, then, that we have no clinical means at our command for the positive diagnosis of cancer of the stomach in the stage of radical removal. We must fall back, therefore, largely on the clinical history. Robson says that "whenever a patient over forty years complains, somewhat suddenly, of indefinite symptoms of gastric uneasiness, pain and vomiting, followed by progressive loss of weight, secondary anemia, and so forth, the possibility of cancer should at once be recognized." It is necessary to exclude chronic gastritis and ulcer of the stomach especially, but the history of long-standing dyspepsia, with the less striking blood changes in gastritis, and the persistent hyperchlorhydria in ulcer, are often sufficient to make the probable diagnosis of those conditions.

In a certain rather small percentage of cases there are no stomach symptoms at the outset, and such cases are very likely to be overlooked in the stage of radical surgery. Pain is the most constant of the early symptoms, referred rather to the stomach region than to any localized spot. Pain is, however, a more pronounced feature in ulcer. Distress after eating is common. Vomiting is not so early a symptom as pain, and when pyloric obstruction and dilatation of the stomach have occurred, the vomiting characteristic of that condition—large amounts at intervals of one or

two days—is present. It is not my purpose to go into all the complex symptoms of early cancer of the stomach, but simply to emphasize the fact that there is no pathognomonic symptom, and that every case of persistent and increasing stomach disorder in an individual over forty should be the subject of very careful observation on the part of the medical attendant, and the grave possibilities of cancer be kept in mind. Late diagnoses would as a consequence be less common, and the public also would become educated in the subject, and appreciate the importance of early diagnosis and operative treatment. It is advised by Osler that, if in a suspected case there is no improvement in a few weeks, an exploratory operation be done, and that permission be obtained at the same time for a radical operation should a growth be found. The dictum of Czerny and Rindfleisch must be impressed, too, that when a tumor can be positively recognized clinically in cancer of the stomach, it is too late for radical operation. There are exceptions to this rule, but it is on the whole true.

In the surgical treatment of cancer of the stomach, cases fall under two heads: First, those in which the radical removal of the entire diseased area should be attempted, and, second, those advanced cases in which only a palliative operation should be done. The drawing of the dividing line between these two classes is one of the difficult problems of stomach surgery. No rules can be laid down to govern all operations, for the very important factor of differences in operative skill and technique in different operators must be reckoned with. The former frightful mortality of partial gastrectomy (pylorectomy) in the hands of the best operators, and the belief that the diagnosis could not be made until the disease had advanced beyond the possibility of cure, have prevented this operation until recently from achieving an accepted position in abdominal surgery. At the present time, there is no question that this operation in the hands of the surgeon who performs it only occasionally, and often on ill-selected cases, is still accompanied with a mortality which should prohibit it. And yet, in the hands of operators of large opportunity in stomach surgery, the mortality has been reduced to an average of perhaps 25 per cent., and in the hands of Mayo to as low as 7 per cent. 5 to 8 per cent. of the cases recovering have been reported as remaining cured. Krönlein's statistics show that those cases in whom the disease recurs after partial gastrectomy have life prolonged on an average about 14 months

as against but 3 months in gastro-enterostomy. This I do not believe a fair comparison towards gastro-enterostomy, as the cases taken for the latter operation are necessarily less favorable than those selected for partial gastrectomy. Total ablation of the stomach has a place in surgery, but is rarely indicated, and should be replaced almost entirely by partial gastrectomy.

Seventy per cent. of all gastric carcinomata involve the pylorus, and 60 per cent. have their origin there or within three inches of it. Fortunately, there are normally few lymph glands along the greater curvature, and these are confined to the pyloric region. The fundus and two-thirds of the greater curvature are free from lymphatic involvement in cancer of the pylorus. The lesser curvature is rich in lymph glands, and there the lymph and blood vessels lie in the wall of the stomach itself. In the radical operation, therefore, for pyloric cancer, all of the lesser curvature and about one-half of the greater curvature with the omentum should be removed. The considerable portion of the stomach remaining is often referred to as the "immune area" by reason of the infrequency of occurrence or early extension of the disease there. Malignant disease does not tend to extend into the duodenum, and the division there may be made about one inch from the disease. It is rarely possible or best to unite the cut ends of the stomach and duodenum, and, therefore, they should be closed by suture, and a lateral anastomosis of stomach and jejunum be made. This operation should be done in all early cases, as early lymphatic involvement is the rule, and in the practice of the Mayos, with perfected technique and proper selection of cases, it has produced only one death in fifteen cases. This, then, should be the operation of choice in the routine treatment of early carcinoma of the pylorus, just as surely as should the Halsted operation be the routine in early carcinoma of the breast. But it should be routine only in the *early* cases, where the growth is limited to the pyloric end, which still remains movable, and with no extensive adhesions. Haberkaut showed a mortality of  $72\frac{1}{2}$  per cent. in cases operated on with extensive adhesions present, as against 27 per cent. without such. Cases much depressed by malnutrition, or showing marked secondary anemias should not be subjected to the radical operation. The attempt to attain ideal results in cases not warranting them, with consequent unduly great mortality, is what has brought stomach surgery in the past into disrepute among medical practitioners, and the hope for the best results in the future lies in the hearty

co-operation of the physician with the surgeon. And, too, the physician has the right to require of the surgeon that his technique be of the best to date in the performance of these serious operations, and that the upper abdomen be a thoroughly familiar field to him. A badly performed radical operation for cancer of the breast may be covered up, as it is usually unattended by high immediate mortality, and recurrence may be explained to the satisfaction of those interested on other grounds. But a badly performed operation for cancer of the stomach means death to the patient, and in the light of such statistics as those of the Mayo's, any death requires more than passing explanation. Before attempting these operations, the surgeon should become thoroughly familiar with the intricacies of the upper abdomen by dissections and by operations upon the cadaver. A not uncommon cause of death in past time has been gangrene of the transverse colon due to accidental inclusion of the middle colic artery, which runs in the transverse meso-colon, while ligating the gastro-colic omentum. Proper technique and familiarity with the anatomy should render this accident unknown.

I am coming more and more to the opinion that the surgery of the upper abdomen forms a class by itself, and cannot reach the best results if the routine methods of general operations be followed. The patients in cases of cancer are suffering from a disease which in itself means lowered resistive power, and, in addition, the location of the growth in the stomach adds malnutrition and early anemia. Patients are usually above fifty, often with weakened heart or kidneys, and operations in the upper abdomen are especially prone to be followed by pneumonia. We must be prepared to avoid every possible exposure or loss of body heat, to shorten, as far as possible the time of operation, and to prevent vomiting, pneumonia, and hypostatic chest conditions following operation. If the patient is starved, he should be prepared with peptonized foods and nutritive enemas for two or three days before operation. In patients whose tissues are dried out by their inability to retain and absorb fluids because of pyloric obstruction, saline solution may be given by rectum regularly for several days before operation, or by subcutaneous or intravenous injection before operation. Robson pays great attention to cleanliness of the mouth for days before operation, and gives sterile liquid food for one or two days before. The patient's stomach should be irrigated on the morning of the operation with saline solution until the return flow comes clear,

or if he be unaccustomed to lavage it may be done on the day previous to operation to avoid the strain immediately before the operative ordeal, and he may be given afterward a small amount of liquid nourishment. The preparation of the patient's skin may be done twenty-four hours before operation, and again on the morning of the day of operation. But delay should not be made when the patient is under the anesthetic for the purpose of repeatedly scrubbing the skin, and douching with large quantities of heat-abstracting fluids, which is so often practised, frequently ending by leaving the patient throughout the operation on damp sheets, or lying in a pool of the washing solution. Observations have shown that patients allowed to remain wet during operations develop shock more readily. It is best to simply wipe the skin off with alcohol, or with such a mixture as recently recommended by Harrington, and proceed to the operation at once. When one reflects upon the possible effects upon his own person, if his chest and abdomen were scrubbed with soap and water, and then inordinately doused with alcohol, ether, etc., and left to lie upon a damp table, and in addition the necessity of breathing the refrigerating vapors of ether for an hour or two, he feels strongly inclined to risk the doubtful dangers of the skin germ, rather than run the chances of pneumonia. When, added to this, one considers the necessary handling and exposure of viscera, and often blood loss, the wonder is that more patients do not succumb to pneumonia or shock. If the cancer patient is emaciated, he may be wrapped in cotton-wool previous to the operation and this would be a good procedure in every case. The table, also, should be heated if possible, and one may now obtain rubber water-beds to accomplish this, made to fit the operating table. These beds are divided for convenience in handling into sectional parts, and they supply heat to the patient during the whole course of the operation. I am told that Robson has largely eliminated post-operative pneumonia by this method of supplying warmth to his patient. During the course of the operation, the exposed viscera should be kept well covered with pads wrung out in warm saline solution. Insufficient protection of intestines probably is a factor in producing post-operative pneumonia, as they also follow operations performed with cocain. After operation, fluids are not given by mouth for twelve hours, and then only hot water in small amounts. The danger lies in setting up vomiting and strain upon the newly sutured viscera. Saline and nutrient enemata

will relieve thirst and hunger to an extent, and food by mouth may be withheld for several days. As soon after the operation as practicable, the head and shoulders of the patient are raised on pillows as a preventive of hypostatic congestions, and to facilitate drainage of the stomach through the new anastomosis.

In the second class of cases of cancer, where either by reason of the extent of the growth or its situation, partial gastrectomy cannot be done, the operation of choice is gastro-jejunostomy. This operation is also indicated where the growth is fixed by extensive adhesions; or where the patient's condition is so reduced through pyloric obstruction or other lesion that the risk of the larger operation is too great; or in case where metastases are present. It is indicated in cancer of the duodenum producing obstruction. The duodenum above the papilla must be considered as practically a part of the stomach, as the symptoms of obstruction there are the same as those of the pylorus. I also feel strongly in favor of the performance of gastro-jejunostomy in advanced cases of cancer, or supposed cancer with marked tumor, if the area of stomach wall involved permits its accomplishment, as great relief may at times be given. It is an important fact that a certain small number of cases presenting all the clinical symptoms of cancer of the pylorus or stomach walls, with tumor, perigastric peritonitis, and adhesions, may entirely recover after gastro-enterostomy and the tumor disappear. These are cases of chronic ulcer with an inflammatory mass, the innocent or malignant nature of which cannot be told at times, even with exploration. Usually there is a longer history of stomach symptoms than in cancer cases, but that in itself does not assist greatly in diagnosis, as some nine per cent. of cases of chronic ulcer pass directly from the simple condition into the malignant.

These cases only emphasize the importance of an exploratory operation in nearly all cases of tumor of the stomach, even though it be not possible always to make a positive diagnosis or to remove the tumor. A gastro-jejunostomy may be done, and the rest brought to the stomach will almost certainly give relief, and in some cases considered to be malignant, a cure will result. Robson has reported five or more such cases, and Munro has lately reported two others where patients had been abandoned to die of supposed cancer, but were restored to health by timely gastro-enterostomy.

I present to you to-night a woman who was re-

ferred to me two years ago by Dr. J. E. Midgeley with the diagnosis of carcinoma of the pylorus. She was then 66 years of age, and had worked as a housekeeper. She was emaciated and anemic, having lost twenty-five pounds, and had vomited about a year. When I saw her she was able to take only broth and beef-tea, and food might lie in the stomach half a day and then be vomited up. There was constant suffering with stomach pain. Through the thin abdominal walls, a small hard, movable tumor could readily be felt. Considering her age, the presence of tumor and pyloric obstruction, her marked emaciation, and a history a little indefinite, but pointing to a fairly recent development of the symptoms, it was hardly possible to entertain any other diagnosis but cancer. On account of her weakness, no analysis of stomach contents was attempted, as she was much averse to the use of the stomach tube. I performed a posterior gastro-enterostomy on her in June, 1903, utilizing a very short loop of jejunum, and anastomosing it to the stomach with the Murphy button. Although extremely weak, with a heart murmur and irregular pulse, she made a good recovery. No entero-anastomosis was done, and she never had any symptoms of "vicious circle." After a year, to our surprise, the tumor had disappeared, although revealed by operation to be of the size of a hickory nut, without surrounding adhesions. She is now a frail old lady of 68, eating a general diet, and complaining only of "water-brash" now and then. She had eaten a chop and cabbage for lunch when I examined her a few days ago. The diagnosis in the case was changed to chronic ulcer of the pylorus, with inflammatory thickening and obstruction, by the course of events following the operation.

Krönlein has laid it down as a rule in his clinic that in cases of carcinoma, where extirpation of the growth is impossible, the palliative operation of gastro-enterostomy shall not be performed unless there is evidence of pyloric stenosis. Exception is made only in those cases where there is marked stagnation of food without evidence of stenosis. From my experience, I believe that gastro-enterostomy may be more widely employed, even in cases of advanced cancer with tumor, and without marked evidence of obstruction. I have a specimen here to-night which I removed post-mortem from a case on whom I had done gastro-enterostomy, where life was surely much prolonged by it, with a fair degree of comfort, although there was not marked stenosis at the time of operation. The patient was a man

of 49 who, one year before I saw him in consultation, began to have pain and sensation of pressure in the stomach area. Later a girdle sensation developed, with pain running under the shoulder blades, chiefly the left. Only after eight or nine months was there occasional vomiting, but not enough of it to form a feature of the history. He was much emaciated and anemic, and could take little but liquids because of pain and distress, which caused him to sit doubled over for two or three hours at a time, this attitude and the gulping of gas giving him his only relief. Examination showed a moderately movable tumor in the epigastrium, about two inches in its long diameter. Exploratory operation was advised, but little was promised his relatives, and his neighbors confidently expected him to succumb to any operative attempt. Operation revealed a mass the size of a large egg involving the lesser curvature of the stomach, with glandular involvement and adhesions about the lesser omentum. Posterior gastro-enterostomy was quickly done with the Murphy button, and the patient expressed himself as markedly relieved and hungry the following day. Feeding was commenced at once, and he was kept in a nearly upright position in bed to help the chest circulation; and facilitate the gravitation of the Murphy button downward as well as the drainage of the stomach. The button was passed in this case, as also in the one above reported, in the second week. He was able to return to his home and his work, and lived fifteen months, dying of a general carcinosis of the stomach, omentum and liver, with some dropsy toward the end. This case offered apparently little hope, and yet the good results of the anastomosis were immediate and positive. The stomach in this case became practically a funnel through which food gravitated into the small intestine. In six months the patient had gained between ten and fifteen pounds, had lost much of his cachectic look, and was eating "everything but cabbage and turnips." No entero-anastomosis was done, as the jejunum was attached at its origin close to the duodenum, and the patient never had symptoms of vicious circle.

Von Mikulicz and Krönlein reported several years ago that their cases of gastro-enterostomy lived on an average but three months longer than those not operated upon. Constantly improving methods of operation should make these statistics more favorable, and the operation should not be deferred until the case is far advanced. I am sure they do not represent the results of the pres-

ent day. Dr. Reginald H. Fitz, of Boston, has recently questioned the propriety of doing any operation in advanced cancer of the stomach, holding that the treatment of such cases by other than surgical means often gives more or less prolonged relief and makes dying easy. No one who has observed the great relief given at times by surgery, as well as the prolongation of valuable lives, should wish to withhold the possibility of such relief from others.

Gastro-enterostomy is the operation applicable to the great number of stomach cases with tumor. It is less than twenty-four years since the first operation was performed by Wölfer, of Vienna, for cancer of the pylorus, who short-circuited the obstruction by means of the anterior anastomosis. His patient lived four months. The cases done up to 1899 showed a mortality of 36%, and many of them were nearly moribund at time of operation. At the present time, the operation as applied to all cases, both malignant and benign, is considered by Robson to have a mortality of only 5%. This great change has been brought about by the greater care observed in all details of technique, avoidance of shock, early post-operative feeding, etc., which have been mentioned.

The most serious complication of the earlier gastro-enterostomies was the occurrence of the so-called "vicious circle" or "regurgitant vomiting." In these cases the contents of the stomach would pass into the efferent loop of bowel and back into the stomach without escaping into the efferent loop. The afferent loop would become greatly distended, while the efferent loop would remain collapsed and empty, amounting at times to an intestinal obstruction, and the patient would succumb in a few days after the operation. Many theories were advanced to explain the vomiting, and there are undoubtedly several mechanical conditions which may cause misdirection of the current after gastro-enterostomy. But it has been well shown that the essential reason is the obstruction to the passage onward of duodenal contents. Many modifications of the original operation were suggested to meet the difficulty, all of which involved added time and shock at operation, and in some cases quite difficult technique. The most important measure to prevent the regurgitant vomiting was the establishment of a second anastomosis between the afferent loop and the efferent loop, through which duodenal contents might pass directly without entering the stomach, thus draining the otherwise distended afferent loop. When one realizes that a loop

of bowel is taken up from eight to thirty inches in length before attaching it to the stomach, it is readily seen that the mechanical disadvantage at which the loop is placed for the emptying of its contents is great, unless the secondary anastomosis be made in its dependent portion as a ready outlet. Many surgeons employ this so-called "long loop" for anastomosis, with a second entero-anastomosis, as a routine procedure at the present day. The objection to this is the added time and risk required in the performance of a second anastomosis.

The important advance in gastro-enterostomy in the last year or two is in the entire abandonment of the "loop" in its performance, as advocated by Peterson, of Heidelberg. This operation should become widely used, but is not so at present. It is based on the fact that the origin of the jejunum lies above the greater curvature of the stomach, hanging perpendicularly behind the stomach wall, and directly in contact with it after the transverse meso-colon is broken through, as shown in our diagram. If an anastomosis is made between its commencement, at the highest point without bringing tension upon it, and the lowest point in the greater curvature of the stomach, the stomach is drained at its lowest point, and there is no possibility of kinking or distension of the intestine. The mechanics of the method are perfect as compared with previous methods, and it was followed in the two cases reported above. The operation may be done most quickly with the Murphy button, and in cancer cases the Murphy button should be used in preference to suture. If the method by suture be chosen, it may be facilitated by the use of Moynihan's clamps. Moynihan employs suture altogether, but his great skill with the suture depends upon his enormous experience. In the hands of the average operator the Murphy button is safest. Moynihan's great series of cases without a death is a strong argument in favor of modern gastro-enterostomy.

Five years ago, in a paper read before the American Surgical Association, Hemmeter made this statement: "The inevitable recurrence of carcinoma after operation on the stomach should impress us with the fact that surgical operation cannot be the treatment of the future for such disease. The impression is spreading that gastric surgery can, after all, only bring symptomatic relief, and, according to the classical testimony of Mikulicz, gastric surgery, after a career boldly an brilliancy begun, has arrived at the height of its capability for technical development after

twenty years, and now stands arrested before the natural boundaries of internal medicine." While this may in large measure be true, and we look to medicine to ultimately bring about the cure of cancer, like most prognostications of the kind, it has fallen far short. During the five years which have since this utterance elapsed, medicine has accomplished little or nothing in the treatment of stomach cancer, while the chapter of the operative treatment of the upper abdomen forms the most brilliant written within that time in surgery.

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### SURGERY OF THE GALL BLADDER

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BY ALGERNON T. BRISTOW, M.D.

*Case 1.* In the fall of 1896 there came into my service at the Long Island College Hospital a woman of forty-five years of age, weighing over 250 pounds. She gave the following history: For twelve years previous she had suffered periodically from attacks of violent pain in the epigastrium. Sometimes the interval between the attacks would be less than a month, rarely longer. Examination showed no palpable enlargement of the gall bladder but some tenderness in the vicinity. She had never been jaundiced and the attacks of pain had never lasted longer than a day. A diagnosis of gall stones was made and the patient was submitted to operation which revealed a gall bladder stuffed with small gall stones, none of them much larger than a marrowfat pea and from this size down to that of a pin's head. Altogether there were over 900. The gall bladder was sutured to the peritoneum and drained in the usual manner. The patient made a prompt recovery and when I saw her a year later had not experienced any recurrence.

*Case 2.* The same autumn I saw in consultation at the County Hospital a woman in the medical service who had suddenly been seized with abdominal pain, distention and vomiting, so that the attending physician had made a diagnosis of intestinal obstruction for which I was called to operate. On examination I found that the patient, a rather stout woman of fifty years of age besides the above symptoms was excessively tender over the region of the gall bladder. There was not, moreover, the amount of shock usually present in cases of obstruction, nor was the vomiting of fecal type. I expressed the opinion that we had to deal with a case of acute empyema of

the gall bladder, and on operating, found a viscus greatly distended with muco-pus, containing besides, fifty-five large gall stones. The usual drainage was instituted and the patient made a prompt recovery from the operation only to succumb some weeks later to an attack of pneumonia secondary to influenza, a violent epidemic of which was raging at the time. This is the only case of cholecystotomy I have ever lost, nor do I think that the operation was in any way responsible for the death of the patient.

*Case 3.* In April, 1900, I saw, in consultation with the son of the patient, a woman of sixty years of age, deeply jaundiced, with the following history: Six years previous she had been attacked with severe pain in the left hypochondrium, radiating in all directions, but especially toward the bladder and thorax. These attacks were from three to six weeks apart and were always accompanied by vomiting and scanty and frequent micturition. Each attack lasted for several days. During the three years previous to the date on which I saw her the attacks were of less frequency and less severe. For the six months immediately previous to April, 1900, the patient, however, again commenced to have attacks similar to those from which she first suffered, together with vomiting and recurring jaundice. Eleven days before I saw her, however, the jaundice became very deep and was persistent. Intense itching also occurred so that her condition was pitiable in the extreme. In six months she had lost about forty-five pounds in weight. A diagnosis was made of stone impacted in the common duct and operation advised. This was accepted and patient was removed to St. John's Hospital. At the operation, which was done entirely under nitrous oxide anesthesia entirely, an atrophied gall bladder was with much difficulty exposed, from which a single large calculus was removed. The common duct was now with great difficulty exposed and a large stone discovered in the diverticulum of Vater. This was removed by incising the duct. No attempt was made to suture the duct, but ample gauze drainage was instituted. The wound continued to discharge enormous quantities of bile while the patient lived, but she finally died four days after operation from suppression of urine. For the first two days she also suffered from a copious hematemesis.

*Case 4.* In June, 1904, I saw, in consultation with Dr. Van Cott, a young lady, a teacher in one of our schools with the following history:

For the previous eighteen months she had been subject to severe attacks of pain, sometimes almost of daily occurrence, referred to the region of the gall bladder. There was, however, no tenderness in the vicinity nor was the gall bladder palpable. Jaundice had never appeared. The attacks came without warning and subsided gradually. No shoulder pain. No movable kidney. At this time I did not feel warranted in urging an exploration, but advised delay in the hope that some more definite symptoms might appear. Roentgen-ray photographs were taken twice with entirely negative results. For a time the attacks were mitigated, but reappeared and finally, in June, I opened the abdomen and found the gall bladder appearing both in the anterior and posterior surfaces of the liver—that is to say, the gall bladder presented anteriorly in a fissure of its own. On opening the viscus nothing was found and I came to the conclusion that the peculiar position of the gall bladder was responsible for the attacks of pain, due to a kinking of the cystic duct. There was but slight cholecystitis and the common and cystic ducts were pervious. For the purpose of preventing any further kinking of the cystic duct the gall bladder was so sutured to the peritoneum as to straighten the duct by traction. The recovery of the patient was prompt. Several days afterward, while dressing the wound, irrigation of the gall bladder resulted in washing out a dram or two of soft mortar-like material, greyish in color. I regret to say that this was not further examined. It is probable that it had a cholesterine base. This was not found in the gall bladder at the time of the operation, nor was it either in the cystic duct nor *ductus communis choledochus*. The only conclusion I could draw was that it had been in the hepatic duct and that similar masses had formed from time to time, which, passing downward, had given rise to the pain. At any rate, whether the peculiar position of the gall bladder was wholly to blame for the symptoms, or whether they were due to the passage of soft pultaceous masses of cholesterine, the patient has never, up to the present time, had the slightest return of her pain.

*Case 5.* In July, 1903, I saw, in consultation with Dr. Henderson, a man of forty years of age of stout habit, with the following history: Six weeks previous to my visit he had been seized with acute pain in the region of the gall bladder, together with local tenderness, constipation and fever. The latter was of the typical remittent



type, resembling much the temperature curves of ague. The patient slowly became jaundiced, lost weight to the extent of thirty pounds and was passing typical clay-colored stools. I made a diagnosis of impacted calculus of the common bile duct and sent the patient to the Bushwick Hospital for operation. On the morning of the operation the nurse reported that bile had reappeared in the stools. I operated, however, and on opening the gall bladder found nothing but a small fragment of soft calculus material, the common and cystic ducts being pervious. Drainage was instituted and the patient made a good recovery.

I cite these five cases of cholelithiasis since they are fairly typical of the different forms of the disease with which we meet in actual practice. In Case 1 we see the fact emphasized that the gall bladder will tolerate a very large number of calculi for many years without the supervention of inflammatory symptoms and therefore without danger to life. Here the typical feature of the case is constantly recurring attacks of pain referable to the passage of small calculi through the bile passages into the duodenum.

In Case 2 we see instanced the fact that a number of gall stones may slumber in the gall bladder for an indefinite period without giving rise to any symptoms whatever and then suddenly give rise to inflammatory processes resulting in acute empyema of the gall bladder, a condition when not promptly relieved by operation just as dangerous as a fulminating appendicitis.

In Case 3 we see what may happen when the warning symptoms of cholelithiasis are neglected and the patient is permitted to go on for a number of years in the attempt to get rid of a single calculus through the natural channels without success.

Case 4 is, of course, entirely atypical. I introduce it, however, for two reasons, the first as illustrating the necessity of drainage in all gall bladder surgery in opposition to the so-called ideal operation in which the gall bladder is closed. Second, as illustrating the age at which gall stone disease is possible. This lady was not twenty-five years of age, and I saw one other case which I will not now further cite in which the first symptoms of the disease appeared at the age of sixteen years.

The last case is introduced in order to show the extreme care which it is necessary to exercise in order to avoid operating after the stone has been passed *per vias naturales*. One must

not wait too long and yet long enough, yet I imagine in the case cited few surgeons would have done otherwise than the writer, since the man had been ill for six weeks, and the reappearance of bile in the stools may have been due to a slipping back of the stone so that it ceased to act as a ball valve. Such cases are on record, and require operation.

It is not my purpose, in a paper to be read on a summer evening to enter on an exhaustive discussion on the surgery of cholelithiasis. Technicalities of operation I shall entirely avoid as rather belonging to the surgical society. I wish to point out to the general profession certain facts which in my judgment need elucidation. With regard to the surgery of the bile tracts as a profession, we are, I believe, in much the same conservative position that we were ten years ago in regard to appendicitis, a position, so far as the latter disease is concerned, from which I regret to say some of us have even not as yet advanced if the surgeons here were to tell all they know of that matter. Let it be at once understood that early operations for cholelithiasis stand on the same plane as early operations for appendicitis. They are practically without mortality. Indeed I know of no abdominal operation so devoid of risk as the simple operation of cholecystotomy. When, however, a case of cholelithiasis has been nursed along month after month and the recurrent attacks met with morphine, the surgery of the resultant conditions often presents the gravest complication with which we are ever called to deal. I ought perhaps to remark that we mean quite different periods of time when we speak of early operations in cholelithiasis from what we mean by the same phrase when we speak of appendicitis. By an early operation for appendicitis I mean an operation which is performed as soon as the diagnosis is made and it is evident that the disease is not subsiding. This period is measured in hours. An early operation for cholelithiasis, except in the cases of acute empyema of the gall bladder, is one in which the interval is measured by weeks rather than by days. It is always well to give medical treatment a chance. Nevertheless, hear what Kehr has to say upon this subject: "It should be clearly understood that internal treatment, such as that given at Carlsbad, rarely cures a patient, but produces a latent period in the disease in about 50% of the cases." Please remember, then, that the prognosis of a case of cholelithiasis when medically treated is not good. Single stones are, in my experience, quite rare.

What then should be the guide of the physician and when shall he counsel operation? Let us take the most dangerous cases first, in which an acute empyema of the gall bladder is present. I do not here treat of the symptoms of this condition which have already been touched upon by Dr. Butler, but rather wish to emphasize the very dangerous nature of these cases.

A clinical history will serve to illustrate the dangers of delay. In midsummer of last year at the request of a relative of the patient, a doctor in the interior of the State, I saw, in consultation with a physician of this city, a lady of fifty-five years of age, with the following history: Three days before I saw the patient she had been seized with severe abdominal pain, centering about the region of the gall bladder, with temperature of  $102^{\circ}$ , and much local tenderness. There had been a history of previous attacks of biliary colic for some years before. She was seen at the end of twenty-four hours by a surgeon of this city, who was able to palpate the gall bladder. The symptoms, however, somewhat abated and the temperature subsided to 99, so the consultant counseled delay, which certainly seemed proper under the circumstances. On the morning of the day on which I saw her the temperature was but 99, when the patient was seized with a severe pain in the abdomen and went into collapse. I saw her that evening and expressed the opinion that an acute empyema of the gall bladder had ruptured into the peritoneum. At this time I was unable to hear the second sound of the heart. There did not seem to be the slightest probability that reaction would take place and I declined to operate. The patient died at seven o'clock the next morning, less than twenty-four hours after rupture had taken place.

This, gentlemen, is the history of most cases of rupture of the gall bladder secondary to acute inflammation. A fulminating and perforative appendicitis does not destroy the patient so quickly. The upper abdomen does not begin to tolerate a sudden outpouring of septic material so well as the lower and pelvic regions. You may not infrequently save your patient after rupture of the appendix even when this is not protected by adhesions and you may then console yourself with the reflection that even if you did wait too long, nevertheless, a late operation saved the patient. This will never be your consolation after perforation of the acutely inflamed gall bladder. A gall bladder which is tender, which can be palpated and which gives rise to fever should be the subject of swift operation. There

is about 1% of risk before rupture, 100% of mortality afterward.

What course shall the physician recommend in cases similar to the first case referred to this evening? There seems to be little room for doubt here. While no sudden inflammation developed in the gall bladder as a result of the presence of so large a number of stones in the gall bladder, the patient was ever threatened with such a denouement, and while the history of the case proved that no stone ever did lodge in the common duct so as to produce complete obstruction, this also was an ever-present danger. I imagine besides that few patients would be willing to suffer the violent pains accompanying gall stone colic month after month, year after year, if they knew that the prospect of relief was certain and the risk of life from the operation quite small. The important factor in the decision of the physician is, of course, the diagnosis which ought to offer no difficulties in this class of case. Of course, the finding of the gall stones in the feces would be conclusive evidence. In general I should say that the ultimate dangers of a patient that was from time to time passing small stones through the duct were greater than where the stones were too large, as they often are, to pass into the duct. When a stone passes into the duct and lodges there, then it is that the surgeon begins to meet with the real difficulties of bile tract surgery. Then it is that we meet with dense adhesions in the vicinity of the gall bladder. Then is it that we find an atrophied and thickened gall bladder located deep within the abdomen. Not infrequently we meet with localized abscess, with fistulous communications between duct and small intestine. The difficulties which surround an ordinary cholecystotomy are rarely of a serious nature. Indeed, the operation is usually one of the simplest. Far different, however, is it when we seek to approach a stone impacted in the common duct. These patients, by reason of their jaundice are extremely subject to hemorrhage. This often comes from the wall of the gall bladder which continues to ooze irrespective of gauze packing until the patient is exsanguinated. Sometimes the hemorrhage takes place from the gastric mucosa, as in the case cited. In any event, deep and long-continued jaundice adds a very real peril to the operation which the administration of large doses of chloride of calcium may diminish but not remove. The mortalities of the surgery of cholithiasis all occur in attacks upon the common duct, which is never easy, offering frequently the most difficult problems of technique which we are ever called upon

to solve. If, therefore, you would avoid bringing your patients to the pass wherein they must encounter the maximum of peril, counsel operative procedure before the calculi shall have become embedded in the common duct. Riedel well says that gall stones should be operated upon while still in the gall bladder. I do not wish to be understood as decrying medical treatment. It has its place, and should be faithfully tried until shown to be unavailing. On the other hand, to continue medical treatment month after month, and sometimes, I regret to say, for year after year, when the lapse of time has shown it to be unavailing, is not conservatism but rather rashness and the timidity due to ignorance rather than a wise reserve.

Where due medication, combined with suitable diet, have nevertheless been unable to prevent constant recurrences of the trouble, particularly where the attacks interfere with the patient's mode of life, and it will be seldom where this does not happen—these cases should submit to operation. How shall we avoid such mishaps as that narrated in the fifth case, in which it was evident that the stone which had been impacted in the common duct finally passed into the duodenum just previous to operation? In the first place, no case of acute obstruction of the common duct should be subjected to operation, until time has been allowed for nature to expel the stone unaided. Then comes the question as to the length of time which we should wait before declaring a case chronic and, therefore, suitable for operation. The occurrence of fever is an indication that cholangitis is taking place. Loss of weight is an indication that the nutritive processes are suffering. Yet, in the case cited, both these phenomena had declared themselves. Was it then a mistake to have operated in this instance? I believe that few surgeons would criticise the operation. Indeed, the small amount of detritus which was found was certain to become the nucleus of a fresh gall stone and the source of a fresh attack. When a case of impacted calculus of the common duct has gone four weeks without relief, and when both fever and loss of weight have occurred, it is good surgery to operate. In such cases little, if anything, can be gained by delay. The case of the young woman with the anomalous gall bladder in which no stone was found at the operation, yet a quantity of soft calculus material, is an excellent example of the wisdom of drainage in all cases. The gall bladder should never be sewn up and the abdominal wound closed, not even in the favorable cases so called. This procedure has

been called ideal cholecystotomy. It is a misnomer to so term such an operation, since it is always a dangerous procedure *per se* and does not permit of the escape of an overlooked stone which, indeed, may have come down from the hepatic ducts as did, no doubt, the calculus material in question in this case. Moreover, the ultimate object of all operations should be the cure of the patient and not a transient relief. In cholelithiasis this can only be secured by drainage. Naunyn has shown that gall stones, as a rule, are dependent upon an ascending infection of the biliary passages, and more recently Richardson at the last meeting of the American Medical Association has confirmed this statement. He says: "In all cases the severity of the condition could either be plainly traced to an infectious source, or it could be predicted as an ultimate result." He further says, as a result of his experience, "well-drained cases invariably do well. Non-drained cases present a considerable percentage of bad results."

Finally it is pertinent to ask, what are the chances of recurrence after free drainage with spontaneous closure of the wound. Personally, I have never seen a recurrence. Richardson states that the chance of recurrence is not worth mentioning. As a corollary of the proposition that drainage is essential to a permanent cure, it follows that the cases in which the gall bladder should be removed are very rare, since this procedure renders it impossible to drain the hepatic ducts unless an opening has been made in the common duct. Where this has been done, then and then only is it admissible to remove the small and contracted gall bladder which is usually found in the common duct cases.

The most unpleasant feature in gall bladder surgery is the formation of a hernia in the wound. Apart from the risk of hernia which a drainage operation always involves, these patients are peculiarly subject to hernia, both from the location of the incision and also the fact that many of them, perhaps the majority, are very stout. In the usual incision the motor ends of the intercostal nerves which supply the muscles of the abdominal parities are severed. The incision of Bevan will do much to obviate this source of hernia, as it avoids the nerves. It runs from the ensiform cartilage in the median line downward, and then bends to the right parallel to the costal margin until it has divided two-thirds of the rectus muscle, when it bends downward and follows the muscular fibres. This is the incision favored by Kehrer and is termed by its originator the wave-cut. It gives good exposure of the pile tracts,

a factor which is essential to good operating. As to the mortality of operations on the bile tracts, Kehr with 505 cases reports but 19 deaths, or about  $\frac{1}{2}\%$ , and it is to be remembered that this included the choledochotomies in which the mortality is nearly three times as great as in simple cholecystostomy. On the other hand, 71 cases in which operations were performed on patients with carcinoma of the gall bladder and vicinity, or for suppurative peritonitis cholangitis or sepsis, the mortality was 97% or 69 deaths out of 71 cases. As cases of carcinoma of the bile tracts are usually secondary to cholelithiasis, these figures are an instructive commentary on over-conservatism, and offer the best plea for more intelligent treatment of this condition and an earlier resort to surgery.

### SURGICAL ANATOMY OF THE GALL TRACT.

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From a mechanical and functional standpoint the least important part of the gall tract is the gall bladder. It is the only part of the gall tract that is not essential. Apparently the bodily functions are carried on as well when it is absent as when it is present. Like the vermiform appendix, to which it has so often been compared, its function is speculative, and not apparent. The gall bladder is a diverticulum of the bile duct, as the appendix is a diverticulum of the cæcum. But, although functionally of no importance, surgically it has become a center of great interest, and next to the appendix has demanded more attention than the remaining abdominal viscera.

In understanding clearly the mechanics of the gall tract three points must be clearly kept in mind:

*First*, The purpose of the gall tract. To convey the bile from the liver to the intestine.

*Second*, The subsidiary position of the gall bladder. That while it is a part of the gall tract, it is not a necessary part, and that the function of the bile tract is in no wise sacrificed by its absence.

*Third*, The relation of the pancreatic duct to the gall tract.

These points clearly in mind, the pathological conditions are easily explained and understood.

For purposes of description we divide the gall tract into its component parts, viz., the gall blad-

der, the cystic duct, the hepatic duct, and the common duct. (See Fig. I.)

The gall bladder may be compared to a pear in its shape, which is divided into the fundus, the body, and the neck. It is attached in its long diameter to the lower dome-shaped surface of the liver by areolar tissue, its unattached surface being covered by peritoneum. Sometimes this attachment assumes the form of a mesentery and allows a certain range of movement on the part of the gall bladder. In one of our dissections we found a gall bladder filled with stones having a distinct mesentery long enough to produce a condition of ptosis of the bladder and angulation of the cystic duct.

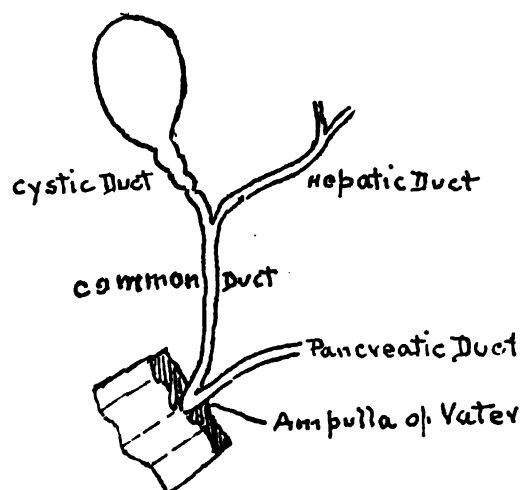


FIG. I.

The only part of the gall bladder in contact with the abdominal wall is the fundus, which slightly projects beyond the anterior margin of the liver at a point between the right and quadrate lobes, at the intersection of the costal margin and the outer border of the rectus muscle. To define the point on the surface of the body, draw a line from the right nipple to the umbilicus. At the point where this line crosses the costal margin is found the contact point of the fundus of the gall bladder with the anterior abdominal wall. The normal gall bladder cannot be palpated through the abdominal wall.

The length of the bladder is about three inches. Its widest diameter about one and one-half inches. Its capacity about one and one-half ounces. Compare the capacity of the gall bladder, one and one-half ounces, with the amount of bile poured into the intestine in twenty-four hours, which amounts to pints, and you realize the subsidiary rôle which it plays in the true function of the gall tract.

The long diameter of the body of the gall bladder is directed upward, backward and to the left. As it approaches the neck there is a distinct S-shaped curve, gradually narrowing until it ends in the cystic duct.

The walls of the gall bladder are composed of three coats—the outer or peritoneal, the middle fibro-muscular, which makes it very tough and capable of great distention, and the inner or mucous coat.

The arrangement of the mucous membrane is worthy of consideration. The mucous membrane is thrown into folds which become more pronounced as we approach the neck and cystic duct. These folds of mucous membrane are known as the valves of Heister. They prevent the passing of a sound into a normal cystic duct. When from inflammatory changes these folds atrophy, the duct can be sounded without difficulty, so that we may formulate the rule that, first, a normal cystic duct cannot be sounded. Second, when a cystic duct can be sounded it is the sign of a previous inflammatory process.

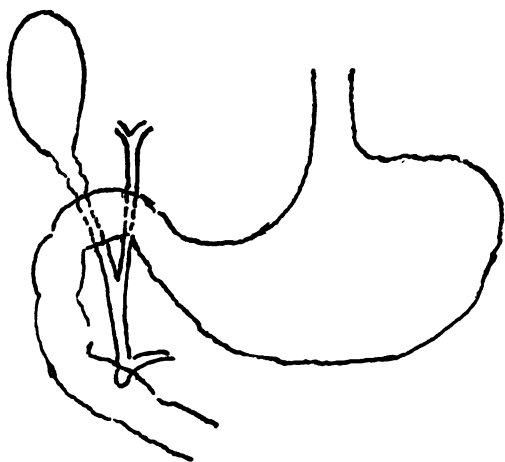


FIG. II.

The gall bladder is in relation with the under surface of the liver above, and with the duodenum and hepatic flexure of the colon below. Thus it is possible to anastomose the gall bladder with the duodenum or colon to relieve the flow of bile when obstruction exists in the common duct.

The cystic duct, one-eighth inch in diameter, extends from the neck of the gall bladder obliquely downward about one and one-half inches and joins the hepatic duct. (See Fig. I.) Just at this point of junction is a gland which, if enlarged, may be mistaken for calculus.

The blood supply of the gall bladder is the cystic artery, a branch of the hepatic, and should

be ligated as a preliminary procedure to removal of the gall bladder.

The possible displacements of the gall bladder are interesting from a clinical standpoint. These displacements depend upon—

- 1st. Changes in the form and size of the liver.
- 2d. Adhesions between the gall bladder and intestines causing the gall bladder to be dragged out of position.
- 3d. Changes within the gall bladder itself, chiefly that of distension. It has been found displaced in the lumbar region, also in the neighborhood of the cæcum.

Its size has varied from that of a cherry to the proportions of an abdominal tumor reaching to within three finger breadths of the symphysis pubis.

The interesting cases reported by Moynihan well illustrate this phenomena.

"Lawson Tait reports a case of distended gall bladder which he mistook for a parovarian cyst. The patient was a woman of 40 years of age. The cyst contained eleven pints of fluid. It was emptied through an incision made between the umbilicus and the pubes. A stone was found obstructing the cystic duct."

"Erdman reports the case of a man, 24 years of age, who suffered from an enormous abdominal tumor from which 60 to 80 pounds of fluid was aspirated. The tumor was regarded as a hydrops of the gall bladder due to blockage of the cystic duct."

"Vincent reports the case of a girl 8½ years of age, presenting an abdominal tumor extending from the right hypochondriac to the left iliac region and to within three finger breadths of the symphysis. 160 c.c. of bile was aspirated. Autopsy showed this tumor to be a tremendously dilated gall bladder."

These instances suffice to show the great distensibility of this viscus and its important bearing in the diagnosis of abdominal tumors.

Up to this point we have described the gall bladder and its duct, the cystic, functionally, as we have already noted, the least important, a mere diverticulum of the main bile tract.

The main bile tract is formed by two ducts which leave the liver through the transverse fissure and uniting form the common hepatic duct, 1-6 inch in diameter, and extending downward for about two inches where it is joined by the cystic duct. (See Fig. I.) The confluences of these two ducts forming the common duct.

The common duct beginning at the confluence

of the cystic and hepatic ducts is about three inches long. It descends between the layers of the gastro-hepatic omentum to the right of the hepatic artery, the portal vein lying behind. In its course downward to empty into the duodenum it sustains the following relations:

1st. It passes behind the first part of the duodenum.

2d. It runs along the posterior surface of the second part of the duodenum, lying between the duodenum and the head of the pancreas.

3d. At about the middle of the second portion of the duodenum it is joined by the pancreatic duct and passes obliquely through the duodenal wall. (See Fig. I.)

4th. As these two ducts meet (the common and pancreatic) at the duodenal wall they empty into a conical cavity formed within the duodenal wall. (See Fig. I.) This conical cavity is known as the Ampulla of Vater. The apex of this cavity opens into the duodenum upon a papilla situated upon one of the mucous folds and known as the Papilla of Vater. (See Fig. I.)

It is necessary to keep in mind that this ampulla into which the two ducts converge is larger than any portion of the common duct. That the papilla upon which it opens into the duodenum is much smaller than any portion of the common duct.

A clear understanding of how the common duct and pancreatic duct join, the conical cavity into which they empty and the relatively small size of the opening of this cavity into the duodenum is absolutely essential for a clear understanding of the various pathological conditions which this anatomical arrangement invites.

*The anatomical reasons and their explanation of pathological processes.*

*Jaundice.*—Keeping in mind the conformation of the bile tract, it is simple to understand the mechanics of jaundice. Remember that jaundice is of two kinds—inflammatory and lithogenous.

Anything that dams up the bile and prevents its flow through the bile duct will produce jaundice.

Inflammatory processes produce it by causing a swelling of the mucous membrane lining the ducts and a temporary closure of their caliber, or a duodenitis may close up the opening of the common duct into the duodenum.

Stones produce it by lodging in the duct and causing obstruction. This naturally leads us to a consideration of gall stones in the different parts of the gall tract and their mechanical effects.

*Stones in the Gall Bladder* may remain here for years quiescent without producing any symptoms. In our dissections we have found stones in the gall bladder in about 80% of the subjects dying from other diseases. This is easily understood when we remember that the gall bladder is merely a diverticulum of the gall duct and stones lodged there in no way impede the free flow of bile to the intestine. Hence there is no jaundice.

*Stone in the Cystic Duct.*—Here, again, there is no impediment to the free flow of bile into the intestine, hence there is no jaundice symptoms. The natural secretion of the gall bladder, however, is dammed back, and we get either a hydrops of the gall bladder, or if infection occurs, an empyema of the gall bladder. Obstruction in the cystic duct is the cause of the enormously distended gall bladders which have simulated other abdominal tumors, and to which allusion has already been made.

Stone in the main bile duct always causes jaundice. Stone either in the hepatic or the common duct impedes the flow of bile, hence the production of jaundice.

A peculiarity of stone in the common duct is its tendency to produce intermittent jaundice. This has been explained by Fenger. The stone in the common duct has a ball valve action, because the common duct is an attenuated funnel in the shape of its caliber, being largest above and gradually tapering down to the ampulla where it is smallest; hence the stone acts like a ball valve, at one time it is completely obstructing the duct and producing jaundice. Changes in conditions dislodge it upwards, and the bile flow is re-established, and the jaundice cleared up; thus is produced the intermittent character of the jaundice.

*Stone in the Ampulla.*—Here we find another mechanical factor, for stone lodged here will not only dam back the bile, but also the pancreatic secretion, hence the influence of gall stones in producing acute pancreatitis and pancreatic cysts.

*Carcinoma Head of Pancreas.*—Recalling the fact that the common duct runs along the posterior surface of the duodenum, between the head of the pancreas and the intestinal wall, it is clearly seen what effect a growth in the head of the pancreas would produce.

1st. Obstruction to common duct, hence jaundice.

2d. Obstruction to pancreatic duct, hence pancreatitis.

3d. Pressure upon the portal vein, hence ascites.

These are the main pathological conditions and their mechanical explanation.

It will be seen that the diseases of the gall tract are the diseases of obstruction, and that a proper appreciation of their clinical manifestations must depend upon our keeping clearly in mind the three essential factors already mentioned.

1st. The purpose of the gall tract—to carry bile from the liver to the intestines.

2d. The subsidiary position of the gall bladder.

3d. The important relation of the pancreatic duct to the gall tract.

## TRANSACTIONS OF SOCIETIES.

### THE MEDICAL SOCIETY OF THE COUNTY OF KINGS.

STATED MEETING, JUNE 20, 1905.

The President, J. W. FLEMING, M.D., in the Chair.

#### GALL BLADDER SYMPOSIUM.

Anatomy of the Gall Bladder. By William F. Campbell, M.D.

Pathology of Billiary Calculus. By Joshua M. Van Cott, M.D.

Diagnosis and Medical Treatment of Choledithiasis and Gall Bladder Disease. By Glentworth R. Butler, M.D.

Surgery of the Gall Bladder. By Algernon T. Bristow, M.D.

#### *Discussion.*

DR. H. A. FAIRBAIRN said that the gall bladder, when infected or containing calculi, demanded surgical measures. He did not believe that the conduct of such cases, except from a diagnostic or merely palliative standpoint, belonged to the internal medicine man.

A gall bladder containing calculi is a constant source of danger, as infection is liable to take place at any minute and produce general septicaemia with changes in liver, peri and endocardium, lung and kidney; or the calculi may be dislodged and obstruct the ducts; or ulceration may ensue with rupture; or malignant trouble may result; or death may result from the pain and shock caused by the passage of the calculi through the duct. He had seen two patients die from such shock, post-mortem examination in each case establishing the diagnosis. Treatment by

olive oil, sodium phosphate, or Carlsbad methods should be, by the choice of the patient, not physician, a positive diagnosis having been made. The reason for failure in surgical treatment of these cases was due often to just such useless temporizing. The patient's glandular circulatory and excretory organs and blood having undergone change from long-continued infection, operative procedures were not well borne. The time to operate was early, as in appendicitis. He was confident that entire removal of the gall bladder was the operation indicated, and that it could be as successfully performed as the operation for the removal of the appendix.

In typhoid fever the gall bladder, like the appendix, may be secondarily infected; but neither, as a rule, required surgical interference, according to his experience, in this condition.

DR. H. G. WEBSTER said that it occurred to him that it might be interesting to present in connection with the symposium a specimen removed from an infant of five months, who was born with a complete atresia of the common bile duct. He gave briefly a general outline of the case. The child was born jaundiced on January 14th and lived to be five months and four days old. During that time there was occasionally a bowel-passage streaked with bile matter, probably what had transuded through the bowel wall. The abdomen was greatly distended with gas, and apparently a very much enlarged liver could be felt reaching below the umbilicus. The child at the end of three months began to show marked signs of rickets; it had a paper-skull, vomited occasionally, and yet did not show the marked gastroenteritis, which is reported as common in most cases. It nursed well. Its bowels were kept open by enemata and various means were employed to get rid of the gas, with no effect. Finally it died of inanition.

At the autopsy there was found a somewhat enlarged liver, though not nearly what one would expect from the results of the physical examination. Every one of the viscera, including the thoracic, was stained brown, except the pancreas which was green. The gall bladder was a mere rudimentary fibrous strip, and his endeavor to pass a probe through it down into the intestine was futile. Dr. Dexter endeavored to prepare the specimen to show the occlusion existing by injecting colored gelatin through the duodenum. They were not able to produce what was desired, but they did demonstrate that fluids could not be forced back through the occlusion. In the specimen the gall bladder shows as a fibrous band,



and the relations of the common duct to the head of the pancreas and the liver are well shown.

A second case, he said, occurred to him during the recital of Dr. Butler's paper. It was that of a man of 54, who had been a steady, heavy drinker, but whose general health seemed to be robust, until he suddenly developed signs of diabetes—polydipsia and voracious appetite—and an examination showed a large percentage of sugar in the urine. A week afterward he was seized with violent pain, which was referred to the epigastrium, with tenderness and high fever. That subsided after a free relaxation of the bowels, to recur on the second day following with pain which was constant. His condition became worse, and he was subjected to operation. At the time there was a hard mass felt in the epigastrium to the right, and the suspicion was entertained the man was possibly suffering from carcinoma of the head of the pancreas—that supposition being based largely on the presence of sugar in the urine, but when incision was made it was discovered that the condition was one of empyema of the gall bladder, which was distended with a considerable amount of muco-purulent material. Two or three small stones were evacuated, and the entire head of the pancreas was found to be hard and reddened as from an acute, grafted upon a chronic, inflammation. The glycosuria disappeared after operation. It would seem to be of hepatic origin. Death ensued from pneumonia. He thought the case worthy of consideration, because it shows that disease of the pancreas occurs more frequently with cholecystitis than we have thought.

DR. J. FURS believed that notwithstanding the prominence given to the surgical treatment of cholelithiasis and of cholecystitis during the evening, there is still a field for medical treatment. There are a good many cases of cholelithiasis that are benefited by medical treatment, and he thought it not out of place to speak of the medical treatment.

In an ordinary case of cholelithiasis, seen in private practice, the developments are about as follows: We do not know anything about the existence of a gall stone that may have been present for years, because the patients have absolutely no symptoms until it comes to an acute attack either of cholelithiasis or cholecystitis. We see these patients at a time when there is fully developed cholecystitis or during the passage of a gall stone. This attack passes often under simple treatment, and the patient becomes comfortable and is free from pain and is then left to himself. Advice is given in a general way to be careful

about the diet in order to avoid another attack, to exercise gradually more and more, in fact, gradually use the more severe exercises such as horseback riding, etc. Indeed, the treatment advised is that of gradually increased exercise.

For many years he has followed a different plan of treatment. He advises patients to rest a long time after an attack, and he keeps them at rest as long as there is the slightest tenderness observable at the region of the gall bladder or at the region of the liver anteriorly and posteriorly. These tender points must be looked for with the greatest care, and only after all tenderness has disappeared must the patient be allowed to get out of bed. If that is not done, the ordinary course is about as follows: In about a week's time, sometimes in two weeks, one is called again to attend the patient with another attack. That attack passes off in a few days; perhaps it may take a little longer time than the first. Again a tenderness is made out in the region of the gall bladder, and the whole liver becomes tender. The patient gradually recovers and is again discharged. That patient may be free for three or four weeks when another attack occurs.

The doctor felt sure that he did not stand alone in the matter of advising rest in these cases. At Carlsbad, where many of our patients are sent for the baths and water, the local physicians often put them to bed to a rest treatment. The patients journey to Carlsbad only to be put to bed when they reach there. The cathartic waters and the gradually increased exercise at Carlsbad often bring on an attack. On this account he wanted to again emphasize the importance of rest.

He did not forget that surgery is a great help in cases of biliary colic. We all know the great success that has been achieved through surgery. But in cases in which operation has been advised, we must not promise our patients entire relief from pain, otherwise it will happen that after an operation in which, by the way, no stone has been found and which proves to be a cholecystitis, subsequent adhesions may give rise to considerable discomfort. The same applies to cases where the appendix has been removed. Occasionally the attacks persist as they did before the operation, and we end by sending the patients to Carlsbad.

As to the simultaneous occurrence of appendicitis and cholecystitis, the more one follows appendicitis the more one sees cholecystitis, and the reverse. There must be an intimate relation between the two, even if we leave sepsis out of the consideration, and it seemed to him that, if the

gall bladder is also incidentally examined at the time of operating on the appendra, it would be of great moment to the patient.

Some years ago the doctor reported a case of interhepatic calculus. In that case there was a stone found in the discharges three or four days after the operation, though the exploration was very thorough and nothing was found along the hepatic ducts or at the termination of the common bile duct at the operation. Still, relief did not occur until this large stone passed with the secretions. He had seen a case where the stones were numerous and distributed in the substance of the liver in the bile ducts, and that may also explain the cases where operation does not relieve the difficulty.

DR. J. S. WIGHT stated that there was one point in differential diagnosis he listened for in vain, and it was brought to his attention in two cases where the clinical picture and the objective symptoms pointed to trouble in the gall bladder and the bile ducts. The operations did not bear out this presumption. About four months later the first case had a sudden attack with general peritonitis, and the operation revealed a duodenal ulcer with perforation. The other case was then sought and operated on and a duodenal ulcer found and made a very good recovery.

DR. R. W. WESTBROOK wished to emphasize the important point Dr. Wight brought out, that many of the cases operated on for so-called gall bladder disease are not gall bladder cases, but cases of duodenal ulcer. Mayo has brought out a large series of these cases, having found more of them than other operators. The Mayos are extremely careful men, and are working for the highest order, and do not stop at the point of putting down the diagnosis as adhesions. If they find adhesions about the duodenum they look carefully for the pathological lesions underlying these lesions, and it is frequently duodenal ulcer.

There were other points he would like to mention, and one was the rather unusual statement made by Dr. Van Cott that carcinoma precedes the gall stones which accompany cholelithiasis. The weight of opinion is entirely the other way with surgeons, and that is borne out by several facts. Four-fifths of the cases of carcinoma are found in women, and gall stones are about four times as common in women as men. Another thing is that a careful inquiry into the history will frequently bring out facts pointing to cholelithiasis, although there may be a period of quiescence from the time carcinoma sets in and from the time the gall stone symptoms were present.

Another point the Mayos have made out in their cholelithiasis operations is to remove the gall bladder. Many of these cases where it is much thickened or looks at all suspicious or gall stones have been found present, and the gall bladders were afterward subjected to microscopic examination, in a small proportion of cases it was found carcinoma had developed.

There is another point Dr. Butler mentioned, which he thought ought to be qualified. Dr. Butler spoke of the acute attacks being accompanied in half the cases by jaundice. Mayo makes the statement that only 20% of gall stone cases have jaundice, and that statement has been borne out by a large number of cases that he has witnessed recently. Dr. Westbrook remembered that the Mayos a short time ago looked up the question, and in eight cases operated on, six had had absolutely no history of jaundice; of the two cases which had a history of jaundice, one was a common duct case, and the other a large stone impacted in the cystic duct, and by pressure on the common duct also was producing jaundice. There was a duodenal fistula there, too.

Dr. Bristow mentioned the fact of a case coming down with a very acute process causing peritonitis as never having caused symptoms. The doctor did not believe the majority of gall bladder cases where the stones are quiescent are without symptoms. He thought they have symptoms, and that with careful inquiry cases would probably show a history of dyspepsia and at times pain in that quarter. The careful histories taken by the Mayos shows these dyspeptic symptoms, which are the symptoms of gall bladder disease, and not jaundice, and the other symptoms which are so classical.

In regard to the recurrence of symptoms after operation and the larger number of operations being done by cholecystotomy and drainage of the gall bladder, the Mayos had over 1,100 cases, and Mayo said only one of these cases had shown any sign of recurrence.

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In regard to the recurrence of gall stones after operation, the Mayos have had over 1,100 cases, and only one of these cases, as far as traced, has shown any signs of recurrence.

## THE BROOKLYN PATHOLOGICAL SOCIETY.

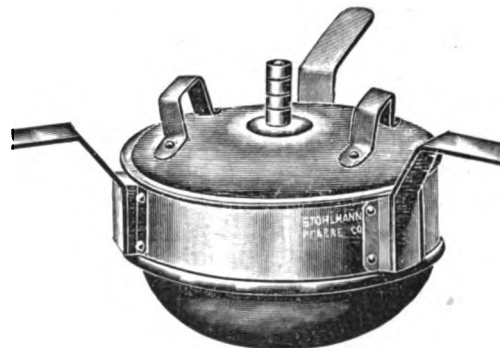
HENRY G. WEBSTER, Editor.

458TH REGULAR MEETING, APRIL 13, 1905.

The President, J. C. MAC EVITT, M.D., in the Chair.

### EXHIBITION OF NEW STOOL SIEVE AND REMARKS ON ITS USES.

DR. D. D. ROBERTS exhibited a new stool sieve that differs from the kinds previously described in that it is designed for use in the bowl of the ordinary water closet, the patient defecating directly into the sieve. This obviates the unpleasant task of collecting and transporting the feces, and the specimen can be washed without transference from one vessel to another in the office laboratory. A pipe that projects from the lid is connected by heavy rubber tubing to a nearby water faucet, or a faucet can be inserted in the supply pipe leading to the tank. The lower part is suspended by the arms in the porcelain bowl, and the seat is shut down for use. Hard stools had best be broken up before washing. The removal of all soluble matter takes from 5 to 20 minutes. The residue from a 24-hours' defecation is from a teaspoonful to a heaping tablespoonful. This residue is entirely odorless, and the process of washing gives rise to practically no odor. To wash the sieve, it is inverted, the arms being detached and placed in the bowl of the water-closet; a stream of water directed on the under side of the sieve clears the meshes. The sieve in the exhibited apparatus is a number sixty, each hole being only about 1-100 of an inch in diameter.



Dr. Roberts wished to call attention to the availability of this apparatus not only for microscopic study of the stools but as a very practical method of searching for gall stones. The

sieve can be used in the patient's house day after day, only the insoluble and odorless remains being saved for the physician's examination at a convenient time.

The examination of whole, fresh feces, while it is absolutely necessary for certain tests, is disagreeable and requires considerable experience to enable one to differentiate the normal from the abnormal. He would, therefore, urge the advisability of using some such washing device as a routine measure in the study of the condition of the gastro-intestinal tract, reserving the more difficult examinations for such cases as may require further search.

#### NEPHROLITHIASIS. SPECIMEN AND HISTORY.

DR. C. H. TERRY said that about the first of the year a woman was sent into St. Mary's Hospital with quite a large growth in the left flank. The woman was very much emaciated and suffered a great deal of pain. She had a movable kidney upon the right side. Upon the left side it was a question as to the nature of the tumor.

About the middle of January, in order to decide the diagnosis, exploratory laparotomy was done, and it was found to be the kidney that was involved. The abdominal wound was immediately closed, the woman turned over, and a lumbar incision made. When he cut down on the kidney he got fluctuation, and pus flowed therefrom, and inside the kidney quite a number of calculi were found. He scooped out what he could of them, put in drainage tubes, and the woman got along very nicely. The wound healed except for a sinus which was left and through which calculi were discharged. About the last of March he removed the entire kidney. On section he found quite a number of calculi imbedded in it everywhere.

#### PROSTATE WITH IMBEDDED CALCULUS. SPECIMEN AND HISTORY.

DR. J. P. MURPHY spoke of a gentleman, 78 years of age, who had always enjoyed good health, except that for the past five years he had had some difficulty in urination, during the last six months of which time he had had practically no control over the bladder. Micturition was painful and occasionally bloody, and there was pain in the perineum and vesical regions. Defecation was likewise painful. On examination it was found that he had an enlarged prostate, hemorrhoids and cystitis. The treatment consisted of vesical irrigation with the administration of urotropine.

After remaining ten days in the hospital he

was operated on, the prostate, in which a stone was imbedded, was enucleated through a perineal incision. The patient reacted well after the operation and continued to improve, but died suddenly on the fifth day from no discoverable cause.

#### ECTOPIC GESTATION. SPECIMEN AND HISTORY.

DR. E. A. PARKER related the case of a lady, 22 years of age; first and only child five years ago. Since then she has had backache, leucorrhea and occasionally dysuria. Menstruation regular, lasting five days. Since January she has flowed in moderate amount between periods, the last occurring March 6th, but never went over her time. Examination showed a mass behind and to the right of the uterus.

March 27th, upon opening the abdomen, clots were found in the pelvis. The clots, unruptured right tube and a large cystic ovary were removed. The recovery has been uneventful.

#### CYSTIC OVARITIS. SPECIMENS AND HISTORIES.

DR. J. C. MACVITT in presenting these two specimens said that his object was to call attention to the fact that in a majority of cases of dysmenorrhea we find cystic degeneration of one or both ovaries. Maldeviation, particularly, and forward flexion of the uterus are, as a rule, also present in many of these cases; in fact, he found it present in all of his cases of dysmenorrhea, where he was compelled to remove the ovaries in whole or in part. It has long been his custom in cases of dysmenorrhea to secure relief for his patient by divulsing the canal, and if he found from the scrapings that the endometrium was diseased, to add to the divulsion a curettage. Experience had taught him that the expected relief was uncertain in its appearance, permanent in some few cases, temporary in others and absent in many. Practicing what he now considers ultra conservatism in caring for the ovaries, notwithstanding the fact that he recognizes their enlargement to thrice their normal size, he permitted them to remain undisturbed, to be confronted with a return of his patient dissatisfied with the results of his efforts.

At the present time when he finds such a condition existing, he removes as much as possible of the diseased organ and leaves sufficient to permit the performance of its functions. In the specimens presented one ovary was cystic, and the half of one other undergoing cystic degeneration. Both of these specimens were removed from the same patient. The remaining half will prevent the premature appearance of the menopause and permit marriage with the possibility of conception.

PAPER: CYSTS OF THE BREAST.\* BY DR. WALTER C. WOOD.

*Discussion.*

DR. J. B. BOGART for the most part found nothing in Dr. Wood's paper to take exception to but very much to commend. There were certain interesting points in connection with the subject Dr. Wood did not touch upon, which, of course, he did not intend to, which gave Dr. Bogart something to say.

One is the great diversity of opinion among observers as to the frequency of the simple retention cysts. Dr. Wood has already referred to Abbe's paper in which for a period of something like eight years he looked over his cases that came to him at his private office, and in 97 cases of breast tumor he found 40% simple cysts, and the remaining 56 cases, or 60%, to be cancer. This is in striking contrast to the statistics of the Johns Hopkins Hospital, where in 510 cases of breast disease appearing in the surgical clinic up to 1892, there were found to be only 7% of simple cysts. Only one other surgeon had he been able to find who has had an experience to compare with Abbe's, and that is Bryant of London. He reports about 25% of simple cysts.

It seemed as though there must be some special cause which has led to so great discrepancy in the observation of such distinguished observers as these. Another remarkable thing about Abbe's paper is this, that he cured all of his cases, as the doctor understood it, by simple aspiration. He does not seem in all the 40% to have found anything but simple cysts. The doctor believed he did mention two in which there was a slight papillary growth. This also is very remarkable.

In recent years there has been a great deal of study devoted to the question of mammary cysts or diseases of the mammary gland. He believed it was because so much attention has been given to the radical treatment of cancer and because the success of operations conducted along the line of Halstead's operation has been so very great. However, he had been unable to find any one who has been so successful as Abbe in treating these cysts. Nor did he find that the majority of observers agreed with the position that Dr. Wood took with reference to them, even with the condition of multiple cysts that he referred to.

Some very able papers have been published recently on the pathology of this condition, and all the writers unite in saying that a careful examination of a number of these cases in which

there are multiple cysts, which have been spoken of under different names as cystic adenoma of the breast, chronic mastitis, etc., demonstrates in a certain number of cases cancer cells, and they find also that we may examine a very large section of the tumor and not find any cancer cells, but by prolonging the examination they are found, not by any means in all cases, but in quite a few.

In some instances the cancer cells are not found in the tumor itself, but in the glands removed from the axilla, so that a very large majority of those who have studied this matter, from the pathological standpoint at least, have recommended the radical operation for this condition—not for the simple cyst, a galactocoele, but for those cases in which there is simple cystic degeneration which generally follows, and more or less general symptoms and local inflammation of the breast itself resulting in this cystic condition; in fact, it is in this class of cases that most of the discussion has arisen and the greatest question as to treatment occurs.

We all know Dr. Wood for a very careful surgeon, as well as a very skillful one, one who is well capable of taking care of the cosmetic effect, as well as looking after the welfare of the patient from the standpoint of health and life, so he was not surprised to find him advocating the removal of the breast and leaving the nipple. Personally, he could not see how it could make much difference to a woman whether the nipple is left behind or removed. That is a structure which is more or less apt to take on disease, and so it seemed to him it is just as well to get rid of it during the operation, if we conclude to remove the breast.

The question of aspiration in these cases is another that has received a great deal of attention. Some writers have gone to very great lengths to protect against infection of the lymphatics in a doubtful tumor of the breast, and greater length probably than is necessary; for he recalled Halstead, in speaking of their work at Johns Hopkins, saying, that in 28 cases of malignant disease, in which an exploratory incision was made into the growth before operating, 26 of the 28 patients were alive at the time reported, and most of these had been alive for three years, the general period at which we express the hope that the patient will remain free, so that the danger from incision, even when malignant, does not seem to be very great and should not hinder us incising in doubtful cases.

Without going further into the question, he would only say for the treatment of these cases of undoubted simple cyst, the diagnosis of which

\* See Brooklyn Medical Journal, June 1905, p. 221.

is not always easy, but which can be made in certain cases, as Dr. Wood advocated, by pressure upon the tumor causing a certain outflow of fluid, and in other cases by the aspiration method, that it generally is not necessary, as proven by Abbe's report, to do anything more than aspirate. He thought that in only two of his cases did he have to re-aspirate.

In those cases where there are simple cysts, especially in women between the ages of 40 and 50, Dr. Bogart thought it would be wise with what we know of the pathology of these cases for us to be more radical and to remove the breast. Another consideration is that the breast is of no further use; the patients, as a rule, are anxious about their condition, and are much more likely to be relieved by the removal of the breast than they are by an operation which stops short of that, when their fears have been thoroughly aroused by a considerable development in the breast.

There is one feature about the less radical treatment of breast cysts, especially the simple cysts, and that is when our patients find that the mere coming to the physician or surgeon with a lump in the breast does not necessarily mean the removal of the breast, and that it may be cured by a simple operation without even an anesthetic, that it will encourage the patients to come promptly, and then we shall get all our cases earlier and our results will be better. Bloodgood has said recently that the success of our operations for breast cancer do not depend so much upon the method of operating; that it did not make much difference whether we did the operation this way or that way, but it depended upon the stage at which we got the case.

Dr. W. C. Wood, in closing, said, it seemed that the points at variance in the profession at present are not very many. If we approach any breast condition in a surgical way, we have four courses open to us: The first is aspiration. Nothing but simple cysts can be treated that way. The second course is by incision and packing and drainage from the bottom. That applies to chronic abscesses, simple cyst, certain types of cysts and to the acute abscess. Then we have the enucleation of a tumor or the removal of the breast gland itself, which is in every sense a conservative operation. That condition seemed to him to be applicable to multiple cystic disease of the breast. That is where there is a difference of opinion. One can remove the breast gland alone by what is known as the Thomas incision, the incision underneath the gland, and most women will never see the incision unless they specially hunt for it. You

can see the nipple, and the natural production of fat beneath the skin, as the years go by, will give practically a normal breast, smaller in size, of course, than the adult breast of younger women.

As he said in his paper, the microscope in some of these cases shows duct carcinoma, but the percentage of duct carcinomas in proportion to other carcinomas is only 4 in a 100, and although pathologically and microscopically a certain per cent. of these cases do develop duct carcinoma, yet clinically that is not the disease that we understand by cancer used in the broad general sense of the term. They did not return even without conservative surgery. Therefore, it seemed to him that unless in any one case definite malignant disease is proven to exist, the conservative removal of the breast is sufficient.

Then, of course, we have the radical operation for the removal of the breast with removal of the pectoral muscles and the axillary glands, perhaps the subclavian glands, the extensive radical and serious surgery that is most satisfactory today for malignant disease of the breast. Why not do this under all circumstances whenever there is the slightest suspicion of a doubt? In the first place, the death rate is low—between 2% and 4%—for the primary operation in a patient, otherwise healthy, death being due to pneumonia and occasionally to sepsis.

There has been a good deal written upon intractable brachial neuralgia following extensive extirpations in the axilla. Morris, who is certainly a careful observer, thinks this unpleasant sequella cannot be foreseen, cannot be prevented in a certain proportion of cases, and particularly cannot be cured until it seems to subside after the expiration of some years. A few cases of that type of neuralgia would make us hesitate to subject a patient to radical operation, unless it cannot be prevented. Dr. Wood did not advocate anything less than the greatest amount of surgery in a patient with malignant disease.

The use of the arm after the removal of the pectoral muscles is excellent. He knew of a woman in whom both pectoral muscles were removed, who earns a living by washing, although on the contrary, a good many women whose breasts and pectoral muscles have been removed cannot use their arms. While most of these results are good, some of them are not. We no longer remove the appendix whenever we open the abdomen, for fear the appendix may become diseased, and he thought the time will come when we will no longer do radical operations on the breast unless the disease is clearly malignant.

Dr. J. B. Bogart, speaking further, did not understand that Dr. Wood recommended the removal of the breast in these cases of cystic adenomata, nor did the doctor intend to intimate that he would do the radical operation for these cases, so that Dr. Wood and himself stood on the same ground as far as that was concerned.

Dr. Bogart thought it is hardly fair to state in several of these cases that duct cancer constitutes only 4% of the cases of cancer of the breast. He thought we should rather consider the proportion of these cases of cystic adenoma which contain cancer cells, which would be a larger percentage, of course, than the number of cases of cancer of the breast which are duct cancers. Just what the proportion is, he did not know, but it would be considerably increased over 4%.

As far as the cosmetic appearance is concerned, as he said before, he would not contend with the doctor there. However, from a practical standpoint, he did not think it makes much difference to a woman whether you remove a part or the whole of the breast.

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## THE BROOKLYN SURGICAL SOCIETY.

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REGULAR MEETING, MAY 4, 1905.

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The President, W. B. BRINSMADE, M.D., in the chair.

### PROLAPSE OF THE RECTUM.

DR. W. S. HUBBARD spoke of a case showing a condition that is not uncommon. A boy, twelve years of age, was brought to him for operation ten months ago. Three years previously he had had pertussis, and as a consequence of prolonged and excessive coughing a prolapse of the rectum resulted, which continued up to the time of operation. All attempts to relieve the condition ended in failure. The rectum could be drawn down and was prolapsed  $5\frac{1}{2}$  inches when the patient was placed on the operating table. The anal sphincters were very relaxed. Movements of the bowels were frequent, two or three times a day, and painful.

The operation consisted in the simple Van Buren method with the thermo-cautery; longitudinal scars being made  $\frac{1}{4}$  to  $\frac{1}{2}$  inch apart throughout the circumference of the gut, which was finally replaced, and a tube of rubber wound with gauze and smeared with vaseline in the common manner inserted, with directions to leave it there 24

hours. It was painful to the boy, and he removed it himself two or three hours after the operation. The result of the operation was all that could be desired. The patient has had no prolapse since—a year after the operation.

### RECTAL POLYPUS COMPLICATING LABOR.

DR. W. S. HUBBARD reported a case of polypus of the rectum complicating labor. He had attended this patient four years ago in her third confinement. The patient gave a history of a rectal tumor existing for nine years. Vaginal examination gave evidence of the mass. Forcing the tumor down to the anal opening per vaginam, a large cauliflower-like growth protruded which was very vascular and bleeding. The tumor was allowed to recede into the rectum, but during delivery was forced by the oncoming head down and out of the anus. The labor was normal in every particular with the exception of this one condition.

Operation was refused at this time.

The speaker was called to attend her a year later in a subsequent labor when the same condition presented. After that she consented to an operation for the removal of the growth. It was a sessile polyp  $3\frac{1}{2}$  inches from the anus, and was removed by ligation of the base and cutting it off with scissors. Two months after the removal of the tumor the rectum was examined and found to be perfectly smooth. The patient has never had hemorrhoids.

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## THE BROOKLYN SURGICAL SOCIETY.

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REGULAR MEETING, JUNE 1, 1905.

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The President, W. B. BRINSMADE, M.D., in the Chair.

### RUPTURED KIDNEY.

DR. C. P. GILDERSLEEVE related the case of a carpenter, who on November 24, 1904, while starting a gas engine was struck in the side by the handle of the flywheel without any punctured wound being made. The speaker saw him two days afterward, at which time the man had a normal pulse and temperature. He had a large swelling in the lumbar region extending over to the median line down over the anterior superior spine and to the lower border of the ribs. Hæmaturia occurred shortly after the accident. The patient was kept quiet a number of days. There were no evidences of depression as a result of the loss of



blood, but at the end of a week he began to show signs of weakness, and on December 6th the reporter operated.

He made a curved incision over the most prominent part of the swelling and removed a very large amount of blood clot and considerable decomposed urine. He felt for the kidney and found a laceration in which he could insert three fingers. He sewed the wound up except for a point at the lower end over the kidney, and in that he inserted a gauze drain. The size of the wick was gradually reduced as the wound closed up. The man was discharged cured January 8th. Two sinuses opened after the wound closed. Apparently the urine which had been coming out through the drain had side-tracked, and these minute fistulæ lasted for six weeks. They gradually closed, and the patient has had no trouble since.

A week after leaving the hospital he was attacked with acute rheumatism and developed a general purpura hemorrhagica. He came back to the hospital and remained there from January 15th to February 16th. He then went home, and his general condition is now much better.

The speaker thought the case interesting as demonstrating the fact that an extensive laceration of the kidney will take care of itself. The hæmaturia ceased after four or five days, no blood appearing at the end of a week.

#### CYSTIC GOITRE.

DR. C. P. GILDERSLEEVE reported the case of an Italian girl, 22 years of age, seen July 16, 1903, with a large cystic goitre of the left side. The circumference of the neck was  $12\frac{3}{4}$  inches and the pulse 144. She was very anemic. She improved on thyroid extract and iron, but the circumference of her neck September 13, 1903, remained the same. March 1st the circumference of the neck was  $13\frac{1}{2}$  inches, and the heart action still rapid. March 16th the size of the neck had increased to  $14\frac{1}{2}$  inches. She entered the hospital early in April, and he operated May 6th. The pulse at that time was 150. At the time he deemed it wiser to make an oblique incision on the front of the neck, because the shape of the tumor was such that it could be gotten out much better than by transverse incision.

Primary union was obtained except at the lower angle of the wound, and that closed up in about three weeks; a slight hæmatoma developed which caused trouble and delayed the union. After the operation the pulse remained 130 to 140 for a month. It is now 90.

The specimen is now two-thirds the size when

removed, and it appears to be an adenoma. The thin fibrous capsule is blended in several places with the capsule of the thyroid itself.

### THE BROOKLYN GYNECOLOGICAL SOCIETY.

JUNE, 1905.

(Continued from August Number.)

#### Discussion.

DR. CARROLL CHASE believed that this case illustrated the only indication for blood letting that he knew of—for the relief of an over full right heart. Comparatively recently it had been recommended, in certain cases of septicæmia or pyæmia, to withdraw a certain amount of blood, and replace the fluid with normal salt solution, in that way decreasing to an extent the amount of poison in the system. That seemed to the speaker rather unscientific, because you lose the antitoxin or poison combating principle in the blood, as well as the toxine, by the blood letting.

DR. POLAK said that as to Dr. Chase's statement that an over full right heart is the only indication in labor for blood letting, he felt there is a certain class of eclamptic cases that are better treated by blood letting than by any other means. He had been in the habit of dividing eclamptics into two classes, outside of the pathological condition. The first is the little anemic woman, of very high pulse, of small volume. That woman was not a good subject for either blood letting into her own vessels, such as occurs by the administration of veratrum viride, or blood letting out of her own vessels by direct incision.

The other class of cases were plethoric women with a high, full, bounding pulse, with more or less cyanosis. These women are better handled by blood letting than by any other method of treatment, in conjunction, of course, with the usual measures which we adopt. The fault in these cases is that we do not usually take away enough blood. It will not do to take out five to ten ounces. We sometimes have to bleed them 20 to 30 ounces. This may seem somewhat old fashioned; at the same time it saves lives. He has also seen good results from blood letting in sepsis.

PAPER: THE CHOICE OF A UTERINE HEMOSTATIC.  
BY DR. CARROLL CHASE.

#### Discussion.

DR. J. O. POLAK remarked that the paper brought up a subject, which he believed we were

too apt to neglect, that hemorrhages may be checked by other means than instrumentation, operation and mechanical compress. The doctor's reference to the drugs hydrastinin and stypticin were worthy of further emphasis. However, the class of cases in which these were applicable is an extremely limited one. He was rather surprised to hear the doctor make the statement that he had been able to control post-abortion hemorrhage by this means. The only explanation he could make for Dr. Chase's statement is that the cases of postabortal hemorrhage which the doctor was dealing with were cases in which the contents of the uterus had been thoroughly and completely cast off, and there was subinvolution of the uterus. Dr. Polak did not believe, and he thought Dr. Chase did not believe, that cases of hemorrhage from retained secundines will stop by stypticin or hydrastinin, until the contents of the uterus are cast off. That may be done by time. A large number of these cases check themselves by time, and the effect of the hydrastinin and stypticin are coincident. There is, however, a class of cases where we do find these drugs to be of value, and that is in the class of hemorrhage which occurs in women with uteri that are out of proportion to the size of the woman, imperfectly involuted, and no drugs work better than hydrastinin and ergot. Occasionally you will find them of extreme value when combined with stypticin.

Again, the menorrhagia attending some menstrual epochs can be controlled with stypticin very nicely. The use of stypticin in fibromata and fibromyoma has failed in his hands. This has also been the experience of the introducer of the drug in this country, Dr. Bolt. If we take into consideration the pathology of a fibroid or a fibromyoma, it will show the theoretical inefficiency of the drug. The doctor believed the cause of the hemorrhage from fibromyomata is not understood by a majority of practitioners as well as it should be, and it is not appreciated that the hemorrhage is not due to the fibroid that is present, but to the hypertrophic endometritis that is coincident; and, consequently, many of these cases, even though they are treated locally by topical applications or drugs, do not improve, because of a lack of a thorough knowledge of the pathology.

In regard to the local hemostatics, particularly the persulphate of iron, that, of course, is not used in present-day gynecology on account of the objectionable clot that it causes. The point that

Dr. Chase brought out that it makes a good focus for the development of bacteria and further infection, is an extremely good one, and that very point of itself is enough to condemn the use of the drug.

The employment of 'very hot, intrauterine douches has seemed to him to be a styptic, that if you have to resort to such a thing as intra-uterine douches, it is better to use the curette or intrauterine tampon, because you do this with no greater disturbance to the patient, with less danger of injury to the patient and with surer success than you can by the use of the intrauterine douche.

The other drug that Dr. Chase mentioned, known as adrenalin, is one that he had had some considerable experience with. It was brought out as a valuable drug in the treatment of post-partum hemorrhage, but post-partum hemorrhage is one that is so readily treated, if it is managed properly, that he could not see that this drug has any value over ergot. It is a mistake in post-partum hemorrhage to use everything that is suggested. If we have two or three distinct things that we are going to use, we will get along better, for instance, with the hot douche. It has been the custom to teach students that if a hemorrhage is not controllable with friction and ergot, they should not waste time but pack the uterus, and it is decidedly more definite and reliable. For post-partum hemorrhage he has used adrenalin, both by local application in douche and by giving it hypodermically into the tissues surrounding the uterus. Except for its transitory effect, and the effect is so transitory that we need to keep pumping it in all the time, he would say that it has no virtue in the control of post-partum hemorrhage. Occasionally in the menorrhagia associated with fibroids, he had seen adrenalin do good.

DR. J. R. TAYLOR said that in regard to suprarenal extract, in his experience, he had found it to ALWAYS fail where fibroids were present. He had used it constantly for hemorrhages from the uterus (that has not been pregnant) both in single and married women for extreme flowing with very good results in almost all other conditions. Although he has used it since it has been on the market, he has found it a dismal failure for fibroids. He has used it in capsules, hypodermically and in solution, and combines it usually with hydrastinin, but it does not make any difference so far as fibroids are concerned.

For all other hemorrhages it is prompt and reliable.

DR. CARROLL CHASE thought that adrenalin was a powerful heart stimulant in small doses. He has been afraid to use it locally where there is any large area for absorption for fear of overstimulating the heart. He has given the 1 to 1,000 solution in 10 to 15 drop doses.

DR. W. B. CHASE stated regarding the relative value of the local application of adrenalin and other drugs that he had had considerable opportunity for observation in the treatment of ulcers of malignant disease, and he was confident from the use of a good deal of it that the styptic effect of dilute acetic acid is of a high order. The effect of adrenalin is temporary, and the reaction comes so quickly that you feel you are no better off than before you applied it, even though you pack against these ulcerated surfaces. Dr. Chase has found no styptic which equals in efficiency dilute acetic acid. Packing gauze moistened with dilute acetic acid against these ulcerated surfaces he has found to be the best method for producing local hemostasis.

Dr. Carroll Chase thoroughly agreed with Dr. Polak, that in these cases of hemorrhage following abortion there must have been either no material or little material left in the uterus. Nevertheless, some of these cases bled, and he did not know why. It is these cases in particular that stypticin and hydrastinin will stop the hemorrhage. He did not claim that hydrastinin or stypticin, given internally, will get rid of material in the uterus that is producing hemorrhage. He still believed that iron is a pretty good hemostatic, especially in carcinoma, and in a condition where you can thoroughly wash out the blood clots. He agreed with Dr. Polak that he would not use adrenalin for post-partum hemorrhage or for the treatment of fibroids. He thought the cases in which adrenalin would act well are those in which vasomotor constrictants would do the work, rather than drugs producing contractions of the uterus.

#### PROGRESS IN OPHTHALMOLOGY.

JAMES W. INGALLS, M.D.

##### ARGYROL STAINING.

Post (*Amer. Jour. of Ophthal.*, March, 1905) relates a case in which his assistant removed a chalazion from the left upper lid. After curet-

ting the cavity, he injected a 25% solution of argyrol. Next day patient returned with lid much swollen and very black. Discoloration extended to the eyebrow. Former incision was opened and a solution of potassium iodid, one grain to the ounce, was injected into the cavity. Next day examination showed that staining at point of injection had diminished, but the surrounding parts remained unchanged. Then sodium iodid, grs. v t. i.d., was ordered to be taken internally. The following day staining was less marked and "condition of the physician much more hopeful." Sodium iodid was continued and staining disappeared in about a week.

#### PATHOLOGY AND PATHOGENESIS OF OPTIC NEURITIS.

Kampherstein (*Augenheilkunde*, April, 1905,) reviews 200 cases of optic neuritis. In 134 cases the neuritis was associated with tumor of the brain. Next in numerical order came syphilis, tuberculosis, abscess of the brain, hydrocephalus, nephritis, deformities of the skull (*turmschädel*), anemia, cysticercus, sinus thrombosis and meningitis. Pupillary reaction in the majority of cases was good. In only three cases was the neuritis associated with nephritis. Jansen is quoted as saying that optic neuritis rarely occurs in uncomplicated sinus thrombosis.

#### EXAMINING THE EYE MUSCLES.

Those wishing to be familiar with some of the more recent methods of testing the eye muscles, most certainly, ought to read Duane's article, entitled, "Relative Value of the Tests Used in Examining the Eye Muscles" (*Annals of Ophthalmology*, April, 1905). Duane regards it as important that an object, used for testing muscular imbalance, should not consist of vertical or horizontal lines or of a figure bounded by such lines. "When such an object is doubled the patient's attention is called to two parallel lines, and these he often unconsciously strives to unite or make continuous with each other, thus involuntarily making the deviation that is really present. This tendency is not as great with points and round objects." Among other things in testing, Duane recommends a small, sharp, very bright light set close to a large dead-black background. It is regarded necessary to begin with the tests which involve the least strain of the eye muscles. Hence tests for imbalance ought to be made before tests for movement and the tests for distance before those for near.

## Brooklyn Medical Journal.

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BROOKLYN-NEW YORK, AUGUST, 1905.

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### THE PREVALENCE OF TYPHOID FEVER,

At the date of going to press, August 23d, there are cases of typhoid in hospitals in the Borough of Brooklyn as follows: Kings County Hospital, 24; Long Island College Hospital, 19; Brooklyn Hospital, 15; St. John's Hospital, 21; Seney (Methodist Episcopal) Hospital, 16; St. Mary's Hospital, 31. In the case of the last mentioned the number is at present greater than at any time in its history. Besides this evidence of the almost epidemic character of typhoid fever in Greater New York at the present time we have the Health Board report and the testimony of numbers of physicians in private practice that it is unusually common.

The cause of this unusual increase seems as yet to have completely puzzled the physicians of the Board of Health. The chief engineer of the Water Works Department of Brooklyn, Mr. De-Varona, states that the water analysis shows an absence of typhoid bacilli.

In view of this statement, which may perhaps carry little weight, owing to the well-known difficulty of isolation or discovering the germ in water, but also by reason of a somewhat locally greater abundance of this disease at Bath Beach and other points, it would appear that some other causes than the water were responsible for its unusual prevalence at this season. Typhoid fever is, most notoriously of all disorders, a "filth disease." Its germs flourish only where filth is abundant, and where cleanliness, one of the supposedly accepted evidences of modern civilization,

is not regarded. We have competent inspectors who are appointed to oversee our milk supply; the Water Department is equipped with all the necessary paraphernalia for determining the purity of water and with the power of diverting from the public supply any specific, local source found to be impure; our ice receives in some measure oversight from the Board of Health. Yet during the annual summer-time out-of-town rush before an opportunity of charging the returning vacationist from the rural districts with responsibility for the usual autumnal increase of typhoid has arrived, we have an almost full-blown epidemic which is causing more illness in New York City than is yellow fever in New Orleans. Typhoid fever should become less common year by year. Last summer, and particularly this, it is more than usually prevalent. The New York Board of Health is investigating the cause, but as yet it has not succeeded in determining whether the water, milk, ice, an unusual or local abundance of flies, or all of these, are contributing to it. A knowledge as to how long typhoid bacilli can live in salt water might contribute something to the solution of the much discussed question as to whether bathing in a sewer-polluted bay is capable of causing enough cases to be worth serious consideration in this connection.

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### THE ACTIVE AGENT IN THE SPREAD OF YELLOW FEVER.

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Our daily contemporary, the *New York Mail*, of August 12th, seriously questions the agency of the stegomyia mosquito as the sole or even most active cause of the spread of yellow fever. The same scepticism of scientific spirit which would minimize the importance of the work accomplished so recently by Doctors Reed, Carroll, Agramonte and Lazear has been also noticed in other newspapers. In certain regions of the South there are conditions which may render such a public avowal of disbelief more excusable than here.

This same spirit of scepticism is as one with the belief that something unknowable enshrouds disease and especially epidemics of disease with an impenetrable fog of mystery. It is the spirit which begat and which nourishes the whole kingdom of quackery. From a newspaper which is supposed to accept its responsibility as a public educator seriously the editorial referred to is a surprising revelation.

### BROOKLYN'S FUTURE WATER SUPPLY FROM LONG ISLAND.

That Long Island can furnish an abundant and increased water supply will be unexpectedly confirmed by the United States Government engineers who have been investigating the underground water resources of Long Island. These investigations show that the amount of water to be obtained here is practically inexhaustible. The soil of Long Island is sandy and porous, taking up the water which falls as rain and snow on its surface like a sponge.

Interrupted in its flow toward the sea by wells, pipes or infiltration galleries, this underground water forms an enormous supply of pure water, filtered of organic material in the process, and hence of the very best type as regards potability.

All that is needed to render Brooklyn's water supply one of the best in the world, is to cut off the surface drainage ponds like that at Hempstead, and supplement it by sufficient additional wells and infiltration galleries such as those installed two years ago at Wantagh and those at present installing at Massapequa to render our present supply adequate to meet Brooklyn's increasing needs.

### OBITUARY.

#### GEORGE WACKERHAGEN, M.D.

Dr. Wackerhagen was for many years engaged in the practice of medicine in this city. He died July 25, 1905. He was born on October 28, 1845, in the city of Albany, New York.

His father was George Augustus Wackerhagen, of Germany, and his mother Christina Rockerfeller, of Germantown, New York.

Dr. Wackerhagen united himself in marriage on October 13, 1875, with Miss Elizabeth Burger Hazlet, of Brooklyn, N. Y. The following children were the result of this union: Frederick William Wackerhagen, Louis Hazlet Wackerhagen, Henrietta Caroline Wackerhagen, Elizabeth Christina Wackerhagen, Fredericka Antoninette Wackerhagen.

The doctor's early education was obtained in Trinity School, New York. In 1862 he entered the drug business, but in a few years enlisted as a private in the One Hundred and Fifty-sixth New York Volunteers. In 1864 he was hospital steward in the United States Army, and for a short time acting assistant surgeon at the United States General Hospital, stationed at Baton Rouge, Louisiana.

Returning to New York in 1866, he began the

study of medicine under the direction of S. Smith, M.D., of New York. Matriculating with the University of the City of New York after two years, he entered the College of Physicians and Surgeons, New York, from which institution he received the degree of M.D. in 1869. During his professional life he was engaged in private practice in this city. At different times he was surgeon to the Southern Dispensary and Hospital, St. Giles' Hospital and the Norwegian Hospital.

Dr. Wackerhagen was a member of The Medical Society County of Kings from 1870-1905, New York Pathological Society, 1885-1905, Brooklyn Pathological Society and the Brooklyn Surgical Society, of which he was president in 1893-'94.



Dr. Wackerhagen's contributions to medical literature have been as follows:

- 1873—Remarks on a Vaginal Speculum.
- 1874—A New Method of applying Plaster of Paris for Fractures of the Bones of the Leg.
- 1874—A Case of Posterior or Angular Curvature of the Spine, with Permanent Muscular Contraction.
- 1875—Free Incision with Drainage Tubes, versus Paracentesis, in the Treatment of Pyothorax.
- 1875—An Improved Method of Obtaining Support in Fracture of the Bones of the Leg.
- 1877—A Case of Plastic Surgery.
- 1877—A Case of Ligation of the Femoral Artery.

- 1877—A Case of Resection of the Hip-joint.  
 1878—A New Fracture Dressing.  
 1880—A Convenient and Rapid Method of Removing Plaster of Paris in Fractures.  
 1883—Extirpation of Cancer of the Face.  
 1884—A New Needle for Continuous or Interrupted Suture.  
 1887—Colpo-Hysterectomy for Carcinoma, with Remarks upon Antiseptic Surgery in Private Practice.  
 1887—A Case of Deformity of the Right Hand, Improved by Plastic Operation.  
 1888—Tubercular Invasion of Bone.  
 1889—A Case of Tubercular Disease of the Ankle-joint.  
 1889—A Case of Ovariectomy.  
 1890—A Case of Syphilitic Disease of the Ankle-joint—One of Talipes Varus and One of Excision of the Thumb.  
 1890—Report of a Case of Pistol-shot Wound of the Right Thigh.  
 1892—Partial Excision of the Wrist-joint.  
 1892—Accumulation of Pus in the Fallopian Tubes.  
 1892—A Case of Appendicitis.  
 1892—Interstitial Fibroid of the Uterus.  
 1896—Surgical Treatment of Carcinoma of the Breast.  
 1897—Recurring Appendicitis.  
 1897—A Case of Carcinoma of Breast.  
 1898—An Improved Accessory Apparatus for Enteroraphy.  
 1898—A Case of Hysteroöphorectomy.  
 1897—A Method of Attaching a Glass-ball to the Murphy Button in Gastro-enterotomy.  
 1891—An Attachment to the Otis Dilating Urethrotome.  
 1898—Digestible Wafer Cylinders for Support of Intestinal Operations.  
 1899—Two Cases of Appendicitis.  
 1902—Adeno-carcinoma of the Breast.  
 1902—Double Oöphorectomy.  
 1902—Hemorrhage Associated with Operation for Appendicitis.  
 1903—Fibromyoma of the Uterus.  
 1903—Gangrenous Appendicitis.  
 1904—A Case of Appendicitis Simulating Cholecystitis.  
 1904—A Case of Fracture of Internal Malleolus and Shaft of Fibula.  
 1905—Intestinal Anastomosis with the Aid of Accessory Support to the Intestinal Wall: Also a Description of an Operation for Suturing the Intestine without Support.

WILLIAM SCHROEDER, M.D.,  
 Chairman of History Committee.

## MEDICAL NEWS.

EDITED BY CLARENCE REGINALD HYDE, M.D.

*It is earnestly hoped that all members of the profession possessing news concerning themselves or their friends, which would interest others, will communicate the same to the News Editor before the 9th of each month. Items for this department should be sent promptly to Clarence Reginald Hyde, M.D., 126 Joralemon Street.*

Dr. Joshua M. Van Cott, of 188 Henry Street, is summering at Shelter Island.

Dr. and Mrs. Glenworth Butler, of Gates Avenue, traveled abroad during July and August.

Dr. Ernest Palmer, of Clinton Street, is at Lunenburg, Vt.

Dr. Charles Jewett, of Clinton Avenue, writes that he is traveling extensively on the Pacific Coast and the Rockies. He was heard from on August 7 at Santo Catalina Island.

Dr. Frank West has left Westhampton for a well-known Canadian resort.

Dr. and Mrs. J. Frederick Hatter, 297 Stuyvesant Avenue, are spending the month of August at Port Jefferson, Long Island.

The following conversation recently took place in India:

Physician (with his ear to patient's breast): There is a curious swelling over the region of your heart, sir, which must be relieved at once.

Patient (anxiously)—That "swelling" is my pocketbook, doctor. Please don't reduce it too much.—*Indian Medical Record.*

There is an opportunity for a stomach specialist or a good dietician to compile a good standard diet list for physicians' use. Patients continually ask us, "Doctor, what may I eat?" The doctor stumbles along, remarking something about junket, milk, eggs, and a few other food products, but rarely can a physician tell his patient off hand what to avoid and what may be taken. The diet lists at present on the market are not what they should be. Many of them are merely advertising agencies. What we need is a book with twenty or thirty printed diets for those diseases which need a specially well regulated diet; a book which can be carried in the pocket, if necessary. Rheumatism, diabetes, renal affections and stomach and intestinal diseases need special consideration, more so than is given in the present diet lists. A busy physician doesn't wish to feel compelled to carefully peruse his "Lander Brunton" to make out a diet list. He wishes something

which needs only the tearing out of a page in a book, which can be given or mailed to his patient, and which will represent the best diet which can be offered. Dr. Thomas (L. I. C. H., '92) published a very good diet list, but since the date of publication we have gained new ideas, and it is these new ideas in dietetics which need to be incorporated in something tangible and easy of access. Surely this borough has specialists who can solve this question.

The next International Medical Congress will be held in Lisbon, April 19 to 26, 1906. It is expected that it will be one of unusual importance for a meeting which will be held in what has always been considered as an out of the way country. Already the titles of papers from some of the most distinguished men of the medical profession have been received.

Dr. T. D. Crothers, of Hartford, Conn., will deliver the first oration in the Norman Kerr Memorial Lectureship, at London, England, October 10, 1905. Dr. Kerr was a London physician who made a special study of inebriety, alcoholism and other drug disorders. He wrote several books on this subject and was instrumental in securing the enactment of laws for the control of inebriates and the promotion of hospitals for their care throughout Great Britain. He founded the British Society for the study of inebriety in 1884, and this society and his friends have organized a memorial lectureship for yearly orations on his life and work.

The medical profession of Brooklyn was represented at the recent tour of duty of the 13th Regiment, Heavy Artillery, in the government fort on Plum Island, by Major Henry P. de Forest, Surgeon; Captains Arthur R. Jarrett and James P. Warbasse, Assistant Surgeons, and Captain G. Morgan Muren, Assistant Surgeon, 47th Regiment, detailed to Fort Terry. Besides the medical officers the regiment took with it four hospital stewards and a Hospital Corps of twenty-three men, with the full equipment for a six-bed field hospital and a well-supplied field dispensary for minor ailments.

The fortifications at Fort Terry, which commands the eastern entrance to the harbor of New York, are among the heaviest in the country and are armed for the most part with 14-inch mortars in groups of fours, and batteries of 8 and 10-inch disappearing guns. Life in camp, from five o'clock in the morning until noon, was a strenuous one, all the guns being employed for the artillery drill, first with dummy ammunition, then with sub-calibre charges, and finally in the

latter part of the week with full service charges and projectiles of about a thousand pounds in weight. To provide against any emergency, one surgeon with supplies and a litter squad accompanied the troops to each battery in the morning, planted a red cross flag where it could be easily seen and reached in case of need, and remained in the fort until practice was over for the day. At night, one surgeon, whose tent was indicated by a green lantern, took charge of all emergency calls, and at sick call in the morning another relieved him. A sanitary inspection and report was made daily of the food, cooking, ice, water supply, latrines, and general condition of the camp; and ample provision was made by the commanding officer, Col. David E. Austen, for men to carry out all sanitary precautions. A field ambulance of the standard pattern of the regular army was also furnished by the State headquarters.

As a result of these surgical and sanitary precautions it is remarkable to note that with nearly a thousand men in camp from all social walks of life not a single case of sickness worthy of note occurred, and fortunately with the long training that the men and officers have in the Brooklyn armory in the drill with heavy guns not a single accident occurred in the various batteries. We are trying to profit from the example of our friends in Japan and prevent disease whenever practicable. From the medical point of view, therefore, the recent camp service was truly remarkable.

Dr. Thomas Darlington, Commissioner of Health of the combined boroughs, has issued a "Report on Filtration of the Water Supply of the City of New York." It is addressed to the Mayor and is an earnest plea for the establishment of a filtration plant so that the city shall have absolute control over its water supply. Charts showing the reduction of typhoid which has followed the use of filtration plants in other cities, and maps illustrating its utility elsewhere, are incorporated in the pamphlet. The up-hill fight which New York City has had with State officials and other interests to obtain sufficient water for its needs is reflected in the remark: "A great community should control its own water supply, as occasions arise calling for prompt action, which cannot be had where it is necessary to obtain the approval of officials outside of the city, who have no direct interest in its affairs." We approve of the proposed method of obtaining additional supplies of water, and trust that the Commissioner's appeal will bear fruit.



# Medical Schools and Colleges

OF THE

UNITED STATES

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SUPPLEMENT

OF THE

BROOKLYN MEDICAL JOURNAL

---

SEPTEMBER, 1905

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COMPILED BY G. L. HARRINGTON

| Name of College.  | Location.      | Name of Dean.              | Total No. of<br>Students Reg-<br>istered, Session<br>1904-5. | Total No. of<br>Graduates,<br>1905. | Men. | Women.           | Men. | Women. | Established,<br>Weeks in<br>School Year. | Tuition per<br>Year. | Average<br>Year.  | 1905-6 Session.<br>Begins. Ends.<br>1905. 1906. |
|---|----------------|----------------------------|--|-------------------------------------|------|------------------|------|--------|--|----------------------|-------------------|---|
| ALABAMA.  |                |                            |  |                                     |      |                  |      |        |  |                      |                   |   |
| Birmingham Medical College—R.                                   | Birmingham.    | B. L. Wyman, M.D.          | 100  | 28                                  | 14   | 14               | 14   | 14     | 1894.                                    | 24                   | 83                | Oct. 1. Apr. 10                                 |
| Medical College of Alabama (Med. Dept. Univ. Ala.)—R.           | Mobile.        | Geo. A. Ketchum, M.D.      | 170  | 18                                  | 28   | 28               | 28   | 28     | 1859.                                    | 25                   | 106               | Oct. 1. Apr. 10                                 |
| ARKANSAS.   |                |                            |  |                                     |      |                  |      |        |  |                      |                   |   |
| University of Arkansas—Med. Dept.—R.                            | Little Rock.   | Edwin Bentley, M.D.        | 217  | 3                                   | 35   | 30               | 2    | 2      | 1879.                                    | 24                   | 60                | Oct. 16. Apr. 14                                |
| CALIFORNIA.   |                |                            |  |                                     |      |                  |      |        |  |                      |                   |   |
| Cooper Medical College—R.                                       | San Francisco. | Henry Gibbons, Jr., M.D.   | 136  | 22                                  | 57   | 33               | 4    | 4      | 1858.                                    | 34                   | 150               | Aug. 15. May 10                                 |
| University of California—Med. Dept.—R.                          | San Francisco. | A. A. D'Ancona, M.D.       | 90   | 10                                  | 62   | 15               | 2    | 2      | 1863.                                    | 36                   | 150               | Aug. 15. May 15                                 |
| College of Physicians and Surgeons of San Francisco—R.          | San Francisco. | D. A. Hodghead, M.D.       | 117  | 18                                  | 38   | 18               | 1    | 1      | 1868.                                    | 30                   | 120               | Oct. 1. May 15                                  |
| California Medical College—E.                                   | San Francisco. | Daniel Maclean, M.D.       | 35   | 7                                   | 27   | 5                | 3    | 3      | 1881.                                    | 30                   | 93                | Oct. 1. May 16                                  |
| Hahnemann Medical College of the Pacific—H.                     | San Francisco. | Jas. W. Ward, M.D.         | 21   | 15                                  | 36   | 2                | 7    | 7      | 1881.                                    | 30                   | 114               | Sept. 1. May 1                                  |
| Hahnemann Medical College, University of Southern California—R. | Los Angeles.   | Walter Lindley, M.D.       | 102  | 9                                   | 48   | 22               | 1    | 1      | 1885.                                    | 34                   | 122               | Oct. 4. June 4                                  |
| College of Physicians and Surgeons—R.                           | Los Angeles.   | Benj. F. Church, M.D.      | 20   | 2                                   | 31   | 5                | 1    | 1      | 1904.                                    | 34                   | 114               | Aug. 15. May 15                                 |
| Oakland College of Medicine and Surgery—R.                      | Oakland.       | Joseph L. Milton, M.D.     | 10   | 2                                   | 28   | 28               | 1906 | 1902   | 36                                       | 114                  | Aug. 15. May 15   |   |
| COLORADO.   |                |                            |  |                                     |      |                  |      |        |  |                      |                   |   |
| Denver and Gross College of Medicine—R.                         | Denver.        | Sherman G. Bonney, M.D.    | 102  | 7                                   | 80   | 29               | 2    | 2      | 1881.                                    | 32                   | 114               | Sept. 10. May 18                                |
| Denver Homeopathic College—H.                                   | Denver.        | James P. Willard, M.D.     | 27   | 5                                   | 31   | 6                | 1    | 1      | 1894.                                    | 27                   | 94                | Sept. 10. April                                 |
| University of Colorado—Medical Department—R.                    | Boulder.       | J. M. Giffin, M.D.         | 48   | 5                                   | 28   | 6                | 1    | 1      | 1883.                                    | 36                   | 50                | Sept. 11. June 7                                |
| CONNECTICUT.  |                |                            |  |                                     |      |                  |      |        |  |                      |                   |   |
| Yale Medical School (Dept. of Med. Yale Univ.)—R.               | New Haven.     | Herbert E. Smith, M.D.     | 139  | 48                                  | 21   | 1                | 1    | 1      | 1810.                                    | 36                   | 150               | Sept. 28. June 27                               |
| DISTRICT OF COLUMBIA.   |                |                            |  |                                     |      |                  |      |        |  |                      |                   |   |
| George Washington University—Department of Medicine—R.          | Washington.    | W. F. R. Phillips, M.D.    | 298  | 64                                  | 62   | 2                | 2    | 2      | 1823.                                    | 34                   | 115               | Sept. 27. June 6                                |
| Georgetown University—School of Medicine—R.                     | Washington.    | Geo. M. Kober, M.D.        | 116  | 73                                  | 16   | 1                | 1    | 1      | 1851.                                    | 35                   | 110               | Sept. 28. June 31                               |
| Howard University—Medical Department—R.                         | Washington.    | Robert Keyburn, M.D.       | 139  | 14                                  | 34   | 20               | 1    | 1      | 1867.                                    | 34                   | 80                | Oct. 2. June 1                                  |
| GEORGIA.  |                |                            |  |                                     |      |                  |      |        |  |                      |                   |   |
| Atlanta College of Physicians and Surgeons—R.                   | Atlanta.       | Wm. S. Kendrick, M.D.      | 240  | 40                                  | 48   | 1                | 1    | 1      | 1854.                                    | 24                   | 88                | Oct. 4. Apr. 5                                  |
| Georgia College of Eclectic Medicine and Surgery—E.             | Atlanta.       | E. B. Thomas, M.D.         | 53   | 1                                   | 13   | 14               | 1    | 1      | 1839.                                    | 24                   | 95                | Oct. 4. Apr. 1                                  |
| Medical College of Georgia (Med. Dept. Univ. of Ga.)—R.         | Augusta.       | De Sausure Ford, M.D.      | 113  | 26                                  | 14   | 1                | 1    | 1      | 1828.                                    | 24                   | 95                | Oct. 1. Apr. 1                                  |
| ILLINOIS.   |                |                            |  |                                     |      |                  |      |        |  |                      |                   |   |
| American Medical Missionary College—R.                          | Chicago.       | J. H. Kellogg, M.D.        | 58   | 22                                  | 25   | 14               | 1    | 1      | 1895.                                    | 36                   | 125               | Sept. 20. June 19                               |
| Bennett College of Eclectic Medicine and Surgery—E.             | Chicago.       | Anson L. Clark, M.D.       | 140  | 4                                   | 36   | 27               | 1    | 1      | 1868.                                    | 38                   | 100               | Sept. 26. May 8                                 |
| Chicago College of Medicine and Surgery—Ph. M.                  | Chicago.       | Horace A. Hadley, M.D.     | 21   | 20                                  | 43   | 10               | 1    | 1      | 1806.                                    | 36                   | 104               | Sept. 25. June 28                               |
| College of Physicians and Surgeons of Chicago—R.                | Chicago.       | Wm. E. Quine, M.D.         | 613  | 40                                  | 140  | 201              | 12   | 12     | 1882.                                    | 36                   | 145               | Sept. 26. June 5                                |
| Dearborn Medical College—R.                                     | Chicago.       | L. Blake Baldwin, M.D.     | 173  | 8                                   | 39   | 29               | 2    | 2      | 1903.                                    | 39                   | 110               | Sept. 4. June 23                                |
| Harvey Medical College—R.                                       | Chicago.       | Francis Dickinson, M.D.    | 175  | 35                                  | 73   | 10               | 8    | 8      | 1891.                                    | 39                   | 100               | Sept. 4. May 3                                  |
| Hering Medical College and Hospital—H.                          | Chicago.       | H. C. Allen, M.D.          | 45   | 21                                  | 56   | 13               | 8    | 8      | 1892.                                    | 30                   | 100               | Sept. 4. May 3                                  |
| Illinois Medical College—R.                                     | Chicago.       | B. E. Eads, M.D.           | 194  | 9                                   | 42   | 55               | 1    | 1      | 1894.                                    | 27                   | 120               | Sept. 4. June 29                                |
| Jenner Medical College—R.                                       | Chicago.       | Pres. H. M. Martin, M.D.   | 126  | 5                                   | 57   | 12               | 1    | 1      | 1893.                                    | 38                   | 100               | Sept. 4. June 29                                |
| Northwestern University Medical School—R.                       | Chicago.       | Nathan S. Davis, M.D.      | 599  | 123                                 | 144  | 1                | 1    | 1      | 1859.                                    | 36                   | 175               | Oct. 3. June 1                                  |
| Rush Medical College—R.   | Chicago.       | Frank Billings, M.D.       | 505  | 22                                  | 234  | 106              | 6    | 6      | 1837.                                    | 34                   | 175               | July 6, 1906.                                   |
| Hahnemann Medical College and Hospital—H.                       | Chicago.       | M. Dodson, M.D.            | 220  | 104                                 | 61   | 1                | 1    | 1      | 1855.                                    | 28                   | 100               | Sept. 27. July 6, 1906.                         |
| American College of Medicine and Surgery—R.                     | Chicago.       | Reg. W. Henry Wilson, M.D. | 292  | 65                                  | 34   | 1                | 1    | 1      | 1901.                                    | 30                   | 100               | Sept. 26. May 15                                |
| National Medical University                                     | Chicago.       | Sec. John N. Roe, M.D.     | 212  | 20                                  | 60   | 29               | 1    | 1      | 1891.                                    | 36                   | 200               | Oct. 1. Sept. 26                                |
| INDIANA.  |                |                            |  |                                     |      |                  |      |        |  |                      |                   |   |
| Central College of Physicians and Surgeons—R.                   | Indianapolis.  | Geo. D. Kahlo, M.D.        | 162  | 4                                   | 58   | 24               | 2    | 2      | 1879.                                    | 30                   | 75                | Sept. 20. Apr. 20                               |
| Eclectic Medical College of Indiana—E.                          | Indianapolis.  | Sec. F. M. Wright, M.D.    | 30   | 20                                  | 4    | 4                | 2    | 2      | 1900.                                    | 29                   | 75                | Sept. 26. Apr. 16                               |
| Fort Wayne College of Medicine—R.                               | Fort Wayne.    | C. B. Stemen, M.D.         | 39   | 9                                   | 33   | 11               | 2    | 2      | 1879.                                    | 30                   | 75                | Sept. 12. Apr. 18                               |
| Indiana University School of Medicine—R.                        | Bloomington.   | Wm. L. Bryan, M.D.         | 25   | 2                                   | 8    | 1st 2 years only | 1903 | 1903   | 36                                       | 100                  | Sept. 18. June 22 |   |
| Medical College of Indiana—R.                                   | Indianapolis.  | Henry Jameson, M.D.        | 257  | 10                                  | 73   | 78               | 1    | 1      | 1869.                                    | 34                   | 81                | Sept. 14. May 1                                 |
| Physio-Medical College of Indiana—Ph. M.                        | Indianapolis.  | Pres. C. N. Harold, M.D.   | 20   | 3                                   | 21   | 5                | 1    | 1      | 1873.                                    | 28                   | 70                | Sept. 13. Apr. 13                               |
| IOWA.   |                |                            |  |                                     |      |                  |      |        |  |                      |                   |   |
| Drake University College of Medicine—R.                         | Des Moines.    | D. S. Fairchild, M.D.      | 56   | 4                                   | 46   | 10               | 2    | 2      | 1882.                                    | 31                   | 70                | Sept. 18. June 14                               |
| Keokuk Medical College of Physicians and Surgeons—R.            | Keokuk.        | Geo. F. Jenkins, M.D.      | 207  | 8                                   | 19   | 49               | 1    | 1      | 1849.                                    | 32                   | 58                | Sept. 19. Apr. 24                               |
| State University of Iowa—College of Medicine—R.                 | Iowa City.     | James R. Guthrie, M.D.     | 256  | 6                                   | 12   | 61               | 3    | 3      | 1869.                                    | 36                   | 50                | Sept. 21. June 13                               |
| University of Iowa—College of Homoeopathic Medicine—H.          | Iowa City.     | George Royal, M.D.         | 41   | 13                                  | 9    | 9                | 1    | 1      | 1877.                                    | 36                   | 50                | Sept. 21. June 13                               |
| Sioux City College of Medicine—R.                               | Sioux City.    | H. A. Wheeler, M.D.        | 54   | 9                                   | 25   | 12               | 1    | 1      | 1890.                                    | 32                   | 48                | Sept. 13. May 2                                 |
| KANSAS.   |                |                            |  |                                     |      |                  |      |        |  |                      |                   |   |
| University of Kansas, School of Medicine—R.                     | Kansas City.   | G. E. Hoxie, M.D.          | 28   | 2                                   | 18   | 16               | 1    | 1      | 1881.                                    | 36                   | 35                | Sept. 6. June 6                                 |
| Kansas Medical College (Med. Dept. Washburn College)—R.         | Topka.         | W. S. Lindsay, M.D.        | 53   | 6                                   | 38   | 16               | 2    | 2      | 1890.                                    | 38                   | 75                | Sept. 13. Apr. 18                               |
| College of Physicians and Surgeons—R.                           | Kansas City.   | J. E. Sawtell, M.D.        | 48   | 7                                   | 44   | 1                | 1    | 1      | 1894.                                    | 38                   | 75                | Sept. 13. Apr. 18                               |
| KENTUCKY.   |                |                            |  |                                     |      |                  |      |        |  |                      |                   |   |
| Hospital College of Medicine—R.                                 | Louisville.    | P. Richmond Taylor, M.D.   | 423  | 51                                  | 93   | 1                | 1    | 1      | 1873.                                    | 30                   | 80                | Dec. 1. July 1                                  |
| Kentucky University Medical Department—R.                       | Louisville.    | Thos. C. Evans, M.D.       | 338  | 48                                  | 70   | 30               | 1    | 1      | 1899.                                    | 30                   | 75                | Jan. 1, 1906.                                   |
| Southwestern Medical College—R.                                 | Louisville.    | J. M. Bodine, M.D.         | 221  | 33                                  | 71   | 1                | 4    | 4      | 1877.                                    | 28                   | 110               | Oct. 2. May 1                                   |
| University of Louisville—Medical Department—R.                  | Louisville.    | J. W. McLaughlin, M.D.     | 18   | 2                                   | 29   | 7                | 2    | 2      | 1888.                                    | 28                   | 76                | Sept. 26. May 1                                 |
| Louisville Medical College—R.                                   | Louisville.    | J. W. McLaughlin, M.D.     | 18   | 2                                   | 29   | 7                | 2    | 2      | 1888.                                    | 28                   | 76                | Sept. 26. May 1                                 |

Flint Medical College of New Orleans—R. . . . . Thos. J. Clements, M.D. . . . . 52 . . . . . 2 . . . . . 12 . . . . . 6 . . . . . 1889 . . . . . 24 . . . . . 42 . . . . . Sept. 26 . . . . . Mar. 17  
Tulane University Medical Department—R. . . . . Stamford E. Chaille, M.D. . . . . 469 . . . . . 51 . . . . . 83 . . . . . 1834 . . . . . 30 . . . . . 145 . . . . . Oct. 19 . . . . . May 2

## MAINE.

Medical School of Maine (Med. Dept. Bowdoin College)—R. . . . . Alfred Mitchell, M.D. . . . . 93 . . . . . 32 . . . . . 18 . . . . . 1820 . . . . . 33 . . . . . 112 . . . . . Oct. 19 . . . . . June 20

## MARYLAND.

University of Maryland School of Medicine—R. . . . . R. Dorsey Coale, M.D. . . . . 341 . . . . . 57 . . . . . 83 . . . . . 1807 . . . . . 32 . . . . . 112 . . . . . Oct. 2 . . . . . June 1  
Baltimore Medical College—R. . . . . David Street, M.D. . . . . 474 . . . . . 58 . . . . . 96 . . . . . 1881 . . . . . 30 . . . . . Sept. 20 . . . . . June 20  
College of Physicians and Surgeons of Baltimore—R. . . . . Chas. F. Berau, M.D. . . . . 303 . . . . . 52 . . . . . 70 . . . . . 1872 . . . . . 32 . . . . . 120 . . . . . Oct. 1 . . . . . June 1  
Maryland Medical College—R. . . . . John B. Schwatka, M.D. . . . . 208 . . . . . 32 . . . . . 93 . . . . . 1868 . . . . . 33 . . . . . 75 . . . . . Sept. 15 . . . . . May 31  
Woman's Medical College of Maryland—R. . . . . S. Griffith Davis, M.D. . . . . 269 . . . . . 36 . . . . . 33 . . . . . 1882 . . . . . 32 . . . . . 47 . . . . . Oct. 1 . . . . . May 31  
Medical Department of Johns Hopkins University—R. . . . . Wm. H. Howell, M.D. . . . . 269 . . . . . 22 . . . . . 32 . . . . . 48 . . . . . 1893 . . . . . 36 . . . . . 200 . . . . . Oct. 3 . . . . . June 2  
Southern Homeopathic Medical College—H. . . . . Geo. T. Shower, M.D. . . . . 28 . . . . . 5 . . . . . 34 . . . . . 1891 . . . . . 30 . . . . . 120 . . . . . Oct. 3 . . . . . May 1  
Baltimore University School of Medicine—R. . . . . Thompson H. Bridler, M.D. . . . . 70 . . . . . 35 . . . . . 14 . . . . . 1884 . . . . . 33 . . . . . 100 . . . . . Oct. 1 . . . . . Apr. 1

## MASSACHUSETTS.

Boston University School of Medicine—H. . . . . John P. Sutherland, M.D. . . . . 73 . . . . . 58 . . . . . 12 . . . . . 1873 . . . . . 33 . . . . . 125 . . . . . Oct. 5 . . . . . June 6  
College of Physicians and Surgeons—R. . . . . Chas. H. Cobb, M.D. . . . . 49 . . . . . 19 . . . . . 39 . . . . . 27 . . . . . 1880 . . . . . 34 . . . . . 108 . . . . . Sept. 19 . . . . . June 18  
Harvard Medical School—R. . . . . Wm. L. Richardson, M.D. . . . . 281 . . . . . 145 . . . . . 67 . . . . . 1882 . . . . . 36 . . . . . 200 . . . . . Sept. 28 . . . . . June 28  
Tufts College Medical School—R. . . . . Harold Williams, M.D. . . . . 359 . . . . . 50 . . . . . 87 . . . . . 72 . . . . . 1893 . . . . . 32 . . . . . 150 . . . . . Sept. 27 . . . . . May 30

## MICHIGAN.

University of Michigan, Department of Medicine and Surgery—R. . . . . Victor C. Vaughan, M.D. . . . . 349 . . . . . 27 . . . . . 70 . . . . . 58 . . . . . 1890 . . . . . 34 . . . . . 80-90 . . . . . Sept. 26 . . . . . June 21  
University of Michigan, Homeopathic Medical College—H. . . . . W. B. Hinsdale, M.D. . . . . 53 . . . . . 13 . . . . . 49 . . . . . 7 . . . . . 1875 . . . . . 31 . . . . . 60-75 . . . . . Sept. 26 . . . . . June 21  
Detroit College of Medicine—R. . . . . H. C. Walker, M.D. . . . . 208 . . . . . 42 . . . . . 34 . . . . . 1888 . . . . . 30 . . . . . 85 . . . . . Sept. 20 . . . . . May 8  
Michigan College of Medicine and Surgery—R. . . . . H. C. Wynnan, M.D. . . . . 74 . . . . . 4 . . . . . 37 . . . . . 25 . . . . . 1888 . . . . . 32 . . . . . 85 . . . . . Sept. 19 . . . . . May 8  
Detroit Homeopathic Medical College—H. . . . . D. A. MacLachan, M.D. . . . . 34 . . . . . 4 . . . . . 30 . . . . . 10 . . . . . 1899 . . . . . 32 . . . . . 70-90 . . . . . Sept. 19 . . . . . May 8  
Grand Rapids Medical College—R. . . . . G. L. McBride, M.D. . . . . 48 . . . . . 2 . . . . . 27 . . . . . 5 . . . . . 1897 . . . . . 29 . . . . . 65 . . . . . Sept. 27 . . . . . May 1

## MINNESOTA.

Minneapolis College of Physicians and Surgeons (Med. Dept. Hamlin Univ.)—R. . . . . Geo. C. Barton, M.D. . . . . 118 . . . . . 5 . . . . . 44 . . . . . 9 . . . . . 1883 . . . . . 34 . . . . . 85 . . . . . Sept. 19 . . . . . June 6  
College of Medicine and Surgery, University of Minnesota—R. . . . . Parks Ritchie, M.D. . . . . 214 . . . . . 6 . . . . . 104 . . . . . 7 . . . . . 1887 . . . . . 34 . . . . . 100 . . . . . Sept. 1 . . . . . June 1  
College of Homeopathic Medicine and Surgery, University of Minnesota—H. . . . . Eugene L. Mann, M.D. . . . . 15 . . . . . 1 . . . . . 15 . . . . . 4 . . . . . 1891 . . . . . 34 . . . . . 65 . . . . . Sept. 1 . . . . . June 1

## MISSISSIPPI.

Medical Department, University of Mississippi—R. . . . . Chas. R. B. Fulton, M.D. . . . . 16 . . . . . 1 . . . . . 10 Two years only 1903 . . . . . 34 . . . . . Sept. 21 . . . . . June 7

## MISSOURI.

St. Louis College of Physicians and Surgeons—R. . . . . Waldo Briggs, M.D. . . . . 290 . . . . . 39 . . . . . 56 . . . . . 1879 . . . . . 28 . . . . . 80 . . . . . Sept. 15 . . . . . Apr. 12  
Medical Department, Washington University—R. . . . . Robt. Luede King, M.D. . . . . 263 . . . . . 75 . . . . . 57 . . . . . 1840 . . . . . 32 . . . . . 115 . . . . . Sept. 29 . . . . . May 24  
Marion-Sims-Beaumont College of Medicine (Dept. of Med. St. Louis Univ.)—R. . . . . Y. H. Bond, M.D. . . . . 385 . . . . . 105 . . . . . 103 . . . . . 1873 . . . . . 26 . . . . . 80 . . . . . Oct. 1 . . . . . May 1  
American Medical College—E. . . . . M. M. Hamlin, M.D. . . . . 62 . . . . . 4 . . . . . 18 . . . . . 1873 . . . . . 26 . . . . . 80 . . . . . Sept. 18 . . . . . Apr. 22  
Barnes University Medical Department—R. . . . . C. H. Hughes, M.D. . . . . 391 . . . . . 36 . . . . . 60 . . . . . 98 . . . . . 11 . . . . . 1892 . . . . . 32 . . . . . 80 . . . . . Sept. 17 . . . . . Apr. 10  
Kansas City Hahnemann Medical College—H. . . . . Frank Elliott, M.D. . . . . 40 . . . . . 10 . . . . . 50 . . . . . 11 . . . . . 1888 . . . . . 28 . . . . . 6 . . . . . Sept. 5 . . . . . May 10  
Kansas City Homeopathic Medical College—H. . . . . L. C. McElwee, M.D. . . . . 50 . . . . . 7 . . . . . 38 . . . . . 5 . . . . . 1857 . . . . . 28 . . . . . 70 . . . . . Sept. 10 . . . . . Apr. 15  
Eclectic Medical University—E. . . . . Theo. Doyle, M.D. . . . . 55 . . . . . 5 . . . . . 25 . . . . . 16 . . . . . 1868 . . . . . 30 . . . . . 70 . . . . . Sept. 11 . . . . . Apr. 22  
Kansas City Eclectic Medical College—R. . . . . A. W. McAlester, M.D. . . . . 100 . . . . . 8 . . . . . 31 . . . . . 7 . . . . . 1872 . . . . . 34 . . . . . none . . . . . Sept. 12 . . . . . June 6  
Central Medical College—R. . . . . St. Joseph . . . . . 67 . . . . . 7 . . . . . 28 . . . . . 14 . . . . . 1884 . . . . . 28 . . . . . 1886 . . . . . 20 . . . . . Sept. 15 . . . . . Apr. 15  
Ensworth Medical College—R. . . . . Jacob Geiger, M.D. . . . . 90 . . . . . 32 . . . . . 22 . . . . . 1887 . . . . . 30 . . . . . 1897 . . . . . 30 . . . . . Sept. 15 . . . . . Apr. 15  
Medico-Chirurgical College—R. . . . . Sam. C. James, M.D. . . . . 38 . . . . . 54 . . . . . 12 . . . . . 1881 . . . . . 31 . . . . . 95 . . . . . Sept. 5 . . . . . Apr. 20  
University Medical College of Kansas City—R. . . . . R. T. Slean, M.D. . . . . 125 . . . . . 40 . . . . . 34 . . . . . 1869 . . . . . 28 . . . . . Sept. 5 . . . . . Apr. 20  
Kansas City Medical College—R. . . . . Wm. T. Smith, M.D. . . . . 60 . . . . . 20 . . . . . 12 . . . . . 1797 . . . . . 32 . . . . . 100 . . . . . Sept. 21 . . . . . June 27

## NEBRASKA.

John A. Creighton Medical College—R. . . . . D. C. Bryant, M.D. . . . . 166 . . . . . 3 . . . . . 52 . . . . . 32 . . . . . 1892 . . . . . 33 . . . . . 87 . . . . . Sept. 19 . . . . . May 1  
Lincoln Medical College of Cotner University—E. . . . . Jerome M. Keys, M.D. . . . . 75 . . . . . 6 . . . . . 36 . . . . . 14 . . . . . 1889 . . . . . 29 . . . . . 78 . . . . . Sept. 13 . . . . . Apr. 20  
University of Nebraska College of Medicine—R. . . . . Henry B. Ward, M.D. . . . . 134 . . . . . 8 . . . . . 60 . . . . . 27 . . . . . 1881 . . . . . 30 . . . . . 95 . . . . . Sept. 19 . . . . . May 24

## NEW HAMPSHIRE.

Dartmouth Medical School—R. . . . . Wm. T. Smith, M.D. . . . . 60 . . . . . 20 . . . . . 12 . . . . . 1797 . . . . . 32 . . . . . 100 . . . . . Sept. 21 . . . . . June 27

## NEW YORK.

College of Physicians and Surgeons (Med. Dept. Columbia Univ.)—R. . . . . Samuel W. Lambert, M.D. . . . . 567 . . . . . 118 . . . . . 185 . . . . . 1807 . . . . . 34 . . . . . 250 . . . . . Sept. 27 . . . . . June 13  
Long Island College Hospital—R. . . . . John D. Rushmore, M.D. . . . . 414 . . . . . 90 . . . . . 73 . . . . . 1858 . . . . . 32 . . . . . 187 . . . . . Oct. 2 . . . . . June 2  
Cornell University Medical College—R. . . . . W. M. Polk, M.D. . . . . 360 . . . . . 32 . . . . . 203 . . . . . 66 . . . . . 1868 . . . . . 34 . . . . . 187 . . . . . Sept. 27 . . . . . June 13  
University and Bellevue Hospital Medical College—R. . . . . Edward G. Janeway, M.D. . . . . 392 . . . . . 103 . . . . . 47 . . . . . 1898 . . . . . 33 . . . . . 183 . . . . . Oct. 4 . . . . . June 9  
New York Homeopathic Medical College and Hospital—H. . . . . W. H. King, M.D. . . . . 107 . . . . . 70 . . . . . 21 . . . . . 1861 . . . . . 26 . . . . . 135 . . . . . Oct. 4 . . . . . June 9  
New York Eclectic Medical College of Women—H. . . . . M. Belle Brown, M.D. . . . . 63 . . . . . 27 . . . . . 40 . . . . . 21 . . . . . 1863 . . . . . 29 . . . . . 148 . . . . . Oct. 2 . . . . . May 17  
New York Eclectic Medical College of the City of New York—E. . . . . Geo. W. Boskowitz, M.D. . . . . 63 . . . . . 7 . . . . . 33 . . . . . 13 . . . . . 1865 . . . . . 28 . . . . . 134 . . . . . Sept. 27 . . . . . May 1  
Albany Medical College—R. . . . . S. B. Ward, M.D. . . . . 167 . . . . . 78 . . . . . 52 . . . . . 1838 . . . . . 30 . . . . . 128 . . . . . Sept. 26 . . . . . May 8  
University of Buffalo Medical Department—R. . . . . Matthew D. Mann, M.D. . . . . 208 . . . . . 12 . . . . . 90 . . . . . 37 . . . . . 1845 . . . . . 33 . . . . . 125 . . . . . Sept. 25 . . . . . May 31  
Syracuse University College of Medicine—R. . . . . Gaylord P. Clark, M.D. . . . . 148 . . . . . 7 . . . . . 45 . . . . . 35 . . . . . 1872 . . . . . 36 . . . . . 167 . . . . . Oct. 3 . . . . . June 13  
Fordham College Medical Department—R. . . . . James McKee, M.D. . . . . 136 . . . . . 9 . . . . . 21 . . . . . 1882 . . . . . 27 . . . . . 75 . . . . . Oct. 1 . . . . . Apr. 14

## NORTH CAROLINA.

Leonard Medical School (Dept. Shaw Univ.)—R. . . . . J. W. Faison, M.D. . . . . 81 . . . . . 21 . . . . . 26 . . . . . 1893 . . . . . 30 . . . . . 88 . . . . . Sept. 7 . . . . . Apr. 2  
North Carolina Medical College—R. . . . . W. S. Rankin, M.D. . . . . 16 . . . . . 6 Two years only 1902 . . . . . 34 . . . . . 85 . . . . . Aug. 31 . . . . . May 26  
Wake Forest College Medical Department—R. . . . . Richard H. Whitehead, M.D. . . . . 100 . . . . . 31 . . . . . 9 . . . . . 1890 . . . . . 35 . . . . . 85 . . . . . Sept. 11 . . . . . June 6  
University of North Carolina Medical Department—R. . . . .

| Name of College.   | Location.        | Name of Dean.              | Total No. of<br>Students Reg-<br>istered, Sep-<br>tember 1904-5 | Teachers | Total No. of<br>Graduates,<br>1905. | Reestablished.   | Weeks in<br>School Year. | Tuition per<br>Year. | 1905-6 Season.<br>Begins. Ends.<br>1905. 1906. |
|--|------------------|----------------------------|---|----------|-------------------------------------|------------------|--------------------------|----------------------|--|
| OHIO.  |                  |                            |   |          |                                     |                  |                          |                      |  |
| Medical College of Ohio (Med. Dept. Univ. Cincinnati)—R. | Cincinnati.      | Frederick Forchheimer      | 120   | 1        | 77                                  | 33               | 1819                     | 33                   | \$125. Sept. 28. May 30                        |
| Miami Medical College—R.                                 | Cincinnati.      | John C. Oliver             | 82  | 4        | 47                                  | 21               | 1852                     | 32                   | Oct. 1. June 1                                 |
| Eclectic Medical Institute—E.                            | Cincinnati.      | R. L. Thomas, M.D.         | 130   | 5        | 23                                  | 35               | 1833                     | 28                   | 75. Sept. 18. June 1                           |
| Plute Medical College—H.                                 | Cincinnati.      | Chas. E. Walton, M.D.      | 14  | 8        | 36                                  | 6                | 1872                     | 31                   | 82. Sept. 27. May 1                            |
| Cleveland College of Physicians and Surgeons—R.          | Cleveland.       | R. E. Skeel, M.D.          | 75  | 5        | 56                                  | 16               | 1863                     | 32                   | 130. Sept. 20. May 4                           |
| Western Reserve University Medical Department—R.         | Cleveland.       | B. L. Mikhlin, M.D.        | 74  | 5        | 51                                  | 19               | 1843                     | 34                   | 125. Oct. 1. June 4                            |
| Cleveland Homeopathic Medical College—H.                 | Cleveland.       | G. J. Jones, M.D.          | 61  | 7        | 54                                  | 23               | 1850                     | 31                   | 111. Sept. 27. May 16                          |
| Ohio Medical University—R.                               | Columbus.        | Geo. M. Waters, M.D.       | 152   | 6        | 35                                  | 37               | 1860                     | 32                   | 104. Sept. 12. May 8                           |
| Starling Medical College—R.                              | Columbus.        | Starling Loving, M.D.      | 108   | 36       | 32                                  | 32               | 1847                     | 32                   | 100. Sept. 13. May 5                           |
| Toledo Medical College (Dept. Toledo Univ.)—R.           | Toledo.          | Wm. A. Dickey, M.D.        | 24  | 36       | 6                                   | 6                | 1882                     | 30                   | 75. Sept. 22. May 11                           |
| OKLAHOMA.  |                  |                            |   |          |                                     |                  |                          |                      |  |
| University of Oklahoma School of Medicine—R.             | Norman.          | R. P. Stoops, M.D.         | 8   | 1        | 9                                   | 1st 2 years only | 1899                     | 34                   | Sept. 12. June 9                               |
| Epworth University College of Medicine—R.                | Oklahoma City.   | A. K. West, M.D.           | 6   | 1        | 27                                  | 27               | 70                       | Oct. 3               | May 11   |
| OREGON.  |                  |                            |   |          |                                     |                  |                          |                      |  |
| Willamette University Medical Department—R.              | Salem.           | W. H. Byrd, M.D.           | 45  | 1        | 18                                  | 6                | 1865                     | 24                   | 84. Oct. 1. Mar. 30                            |
| University of Oregon Medical Department—R.               | Portland.        | S. E. Joseph, M.D.         | 89  | 13       | 35                                  | 24               | 1887                     | 28                   | 111. Sept. 15. Apr. 30                         |
| PENNSYLVANIA.  |                  |                            |   |          |                                     |                  |                          |                      |  |
| University of Pennsylvania Medical Department—R.         | Philadelphia.    | Chas. H. Frazier, M.D.     | 545   | 132      | 116                                 | 116              | 1765                     | 36                   | 200. Sept. 29. June 20                         |
| Jefferson Medical College of Philadelphia—R.             | Philadelphia.    | James W. Holland, M.D.     | 678   | 75       | 179                                 | 179              | 1825                     | 34                   | 180. Sept. 25. June 4                          |
| Medico-Chirurgical College of Philadelphia—R.            | Philadelphia.    | Seneca Egbert, M.D.        | 450   | 86       | 86                                  | 86               | 1848                     | 34                   | 150. Sept. 25. June 2                          |
| Woman's Medical College of Pennsylvania—R.               | Philadelphia.    | Clara Marshall, M.D.       | 155   | 55       | 55                                  | 55               | 1850                     | 32                   | 130. Sept. 27. May 23                          |
| Hahnemann Medical College and Hospital—H.                | Philadelphia.    | Chas. M. Thomas, M.D.      | 165   | 74       | 44                                  | 44               | 1848                     | 32                   | 150. Sept. 25. May 23                          |
| Temple College Medical Department—R.                     | Philadelphia.    | J. Newton Snively, M.D.    | 42  | 48       | 3                                   | 3                | 1901                     | 38                   | 125. Sept. 18. June 15                         |
| Western Pennsylvania Medical College—R.                  | Pittsburg.       | J. C. Lange, M.D.          | 282   | 7        | 90                                  | 59               | 1885                     | 34                   | 150. Oct. 1. June 1                            |
| SOUTH CAROLINA.  |                  |                            |   |          |                                     |                  |                          |                      |  |
| Medical College of the State of South Carolina—R.        | Charleston.      | Francis L. Parker, M.D.    | 85  | 2        | 21                                  | 27               | 1823                     | 27                   | 112. Oct. 1. Apr. 15                           |
| TENNESSEE.   |                  |                            |   |          |                                     |                  |                          |                      |  |
| University of Nashville Medical Department—R.            | Nashville.       | Wm. C. Ewing, M.D.         | 321   | 23       | 75                                  | 75               | 1850                     | 24                   | 65. Oct. 2. Mar. 30                            |
| Vanderbilt University Medical Department—R.              | Nashville.       | Wm. L. Dudley, M.D.        | 154   | 32       | 35                                  | 35               | 1875                     | 28                   | 111. Oct. 2. Apr. 2                            |
| University of Tennessee Medical Department—R.            | Nashville.       | Paul F. Eve, M.D.          | 157   | 16       | 33                                  | 33               | 1876                     | 32                   | 71. Oct. 2. Apr. 3                             |
| McHerry Medical College (Dept. Walden Univ.)—R.          | Nashville.       | G. W. Hubbard, M.D.        | 314   | 14       | 23                                  | 57               | 1876                     | 28                   | 42. Sept. 1. 1905                              |
| Knoxville Medical College—R.                             | Knoxville.       | John Clear, M.D.           | 33  | 12       | 9                                   | 4                | 1895                     | 26                   | 40. Nov. 10. June 1                            |
| Chattanooga Medical College (Med. Dept. Grant Univ.)—R.  | Chattanooga.     | E. A. Cobleigh, M.D.       | 264   | 4        | 30                                  | 28               | 1889                     | 28                   | 55. Oct. 1. Apr. 7                             |
| Memphis Hospital Medical College—R.                      | Memphis.         | W. B. Rogers, M.D.         | 476   | 28       | 51                                  | 51               | 1878                     | 28                   | 71. Oct. 1. Apr. 30                            |
| University of West Tennessee Medical Department—R.       | Jackson.         | M. V. Lynk, M.D.           | 35  | 1        | 11                                  | 6                | 1900                     | 24                   | 40. Sept. 18. Apr. 18                          |
| University of the South Medical Department—R.            | Sewanee.         | I. D. Cain, M.D.           | 149   | 17       | 26                                  | 26               | 1892                     | 25                   | 66. Apr. 1. Oct. 25                            |
| Tennessee Medical College—R.                             | Knoxville.       | S. L. Jones, M.D.          | 90  | 20       | 13                                  | 13               | 1889                     | 26                   | 50. Nov. 1. June 1                             |
| TEXAS.   |                  |                            |   |          |                                     |                  |                          |                      |  |
| University of Texas Medical Department—R.                | Galveston.       | Wm. S. Carter, M.D.        | 158   | 6        | 29                                  | 22               | 1891                     | 34                   | 24-74. Oct. 7. May 31                          |
| Baylor University College of Medicine—R.                 | Dallas.          | E. H. Cary, M.D.           | 110   | 3        | 35                                  | 35               | 1845                     | 25                   | 75. Oct. 2. May 1                              |
| College of Physicians and Surgeons—R.                    | Dallas.          | A. C. Bell, M.D.           | 66  | 7        | 15                                  | 17               | 1904                     | 24                   | 86. Oct. 3. Apr. 3                             |
| Gate City Medical College—R.                             | Texas.           | J. W. Decker               | 109   | 20       | 26                                  | 26               | 1899                     | 30                   | Oct. 26. May 4                                 |
| Physio-Medical College of Texas—Ph. M.                   | Dallas.          | R. S. Spann, M.D.          | 35  | 7        | 28                                  | 6                | 1901                     | 28                   | 71. Oct. 15. May 15                            |
| Southwestern University Medical College—R.               | Dallas.          | John O. McReynolds, M.D.   | 46  | 2        | 34                                  | 14               | 1872                     | 30                   | 75. Oct. 2. May 3                              |
| Fort Worth University Medical Department—R.              | Fort Worth.      | Frank Gray, M.D.           | 185   | 1        | 34                                  | 21               | 1894                     | 26                   | 81. Oct. 2. Apr. 6                             |
| VERMONT.   |                  |                            |   |          |                                     |                  |                          |                      |  |
| University of Vermont College of Medicine—R.             | Burlington.      | H. C. Tinkham, M.D.        | 185   | 41       | 48                                  | 48               | 1822                     | 26                   | 121. Dec. 2. June 27                           |
| VIRGINIA.  |                  |                            |   |          |                                     |                  |                          |                      |  |
| University of Virginia—Medical Department—R.             | Charlottesville. | P. B. Barringer, M.D.      | 145   | 25       | 38                                  | 38               | 1845                     | 34                   | 87. Sept. 14. June 13                          |
| Medical College of Virginia—R.                           | Richmond.        | C. Tompkins, M.D.          | 208   | 47       | 39                                  | 39               | 1838                     | 30                   | Sept. 24. May 16                               |
| University College of Medicine—R.                        | Richmond.        | Pres. Stuart McGuire, M.D. | 223   | 60       | 48                                  | 48               | 1893                     | 32                   | 85. Sept. 26. May 24                           |
| WEST VIRGINIA.   |                  |                            |   |          |                                     |                  |                          |                      |  |
| University of West Virginia—R.                           | Morgantown.      | J. N. Simpson, M.D.        | 36  | 9        | Two years only                      | 1903             | 36                       | Sept. 21. June 15    |  |
| WISCONSIN.   |                  |                            |   |          |                                     |                  |                          |                      |  |
| Milwaukee Medical College—R.                             | Milwaukee.       | W. H. Nielson, M.D.        | 160   | 5        | 63                                  | 38               | 1893                     | 30                   | 127. Oct. 2. June 4                            |
| Wisconsin College of Physicians and Surgeons—R.          | Milwaukee.       | Pres. A. H. Levings, M.D.  | 74  | 2        | 52                                  | 19               | 1893                     | 30                   | 100. Sept. 19. May 16                          |
| Totals.  |                  |                            |   |          |                                     |                  |                          |                      |  |
|  |                  |                            | 25,201  | 1,096    | 7,523                               | 5,461            | 2,220                    |                      |  |

# BROOKLYN MEDICAL JOURNAL

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No 10.

## ORIGINAL ARTICLES.

### THE PHARMACOPOEIA OF THE UNITED STATES OF AMERICA—EIGHTH DECENNIAL REVISION.

BY ELIAS H. BARTLEY, M.D.

The new *United States Pharmacopœia* became official on September 1, 1905. That is, after that date, all over the United States a new official standard for the medical and pharmaceutical and legal professions became operative for the regulation of the strength and purity of drugs and medicines. This publication is the official standard for the purchase of drugs for the U. S. Army and Navy. It is the standard of strength of drugs adopted by the courts and boards of health and boards of pharmacy in prosecutions. It is the standard by which physicians' prescriptions must be compounded, and consequently the appearance of a new edition is a matter of great importance to the medical profession. The edition recently issued contains some changes which are of great import to the prescriber and to his patient.

Many new articles have been introduced, some of our old friends have been dropped, the terminology has been modified, the strengths of many of the preparations has changed, and consequently the doses have necessarily been changed. The points in all this, which are of vital interest to the physician, are the terminology and the doses. The matter of whether a remedy is found in the *U. S. P.* or not makes no difference to the average physician. If, however, he wishes a remedy of definite and uniform strength, or in other words, if he wishes his patients to receive the benefit of a known amount of medication, he can only hope

to secure it by prescribing a remedy for which there is a legal standard of strength and purity, and under the legal or official name. If prescribed under any other name, there is no obligation on the part of the dispenser to do anything but put up a commercial article bought and sold under that name. For example, if a prescription calls for urethane, any commercial article bought and sold as such can be supplied; but if it calls for æthylis carbamas only the article described in the *U. S. P.* may be used in compounding the prescription.

One more example: Suppose a physician should write for *hexamethylenamina*, but one article can be used, and that of standard purity. If, however, he write for *urotropine*, *aminoform*, *cystamine*, *cystogen*, *formin*, *uritone* and some others, he would supposedly get the same thing, but with no certainty of either of them being pure or of uniform or definite strength. The physician should never forget that he is the sole judge of what his patient needs, and he should know what he prescribes. This he can know if he prescribes official remedies, but cannot if he writes for the various nostrums highly recommended for mythical virtues due to "special combinations." The Committee of Revision of the *U. S. P.*, acting under instructions of the Convention of 1900, have introduced many synthetics, but under a scientific name which is as near as practicable to its true chemical name. It must be admitted that some of these names are rather unwieldy, and it is quite likely that the unofficial trade names will continue to be used. These trade names are generally given in parenthesis, merely for purposes of identification. We quote a list of them:

| <i>Common or Trade Name.</i> | <i>Chemical Name.</i>         | <i>Official Name.</i> |
|------------------------------|-------------------------------|-----------------------|
| Phenacetin.                  | Acetphenetidin.               | Acetphenetidum.       |
| Urethane.                    | Ethyl Carbamate.              | Æthylis Carbamas.     |
| Antipyrine.                  | Phenyl-dimethyl-isopyrazolon. | Antipyrina.           |
| Saccharin.                   | Benzoyl-sulphonic-imid.       | Benzosulphinidum.     |
| Chloralamid.                 | Chloral-formamid.             | Chloralformamidum.    |
| Eugenol.                     | Eugenol.                      | Eugenol.              |
| Guaiacol.                    | Guaiacol.                     | Guaiacol.             |
| Guaiacol Carbonate.          | Guaiacol Carbonate.           | Guaiacolis Carbonas.  |
| Urotropine and six others.   | Hexamethylene Tetramin.       | Hexamethylenamina.    |
| Iodol.                       | Titra-iodo-pyrrol.            | Iodolum.              |
| Aristol.                     | Dithymol Diiodide.            | Thymolis Iodidum.     |
| Creolin, Lysol, etc.         | Soap solution of Cresol.      | Liq. Cresolis Comp.   |

| <i>Common or Trade Name.</i>     | <i>Chemical Name.</i>                  | <i>Official Name.</i>      |
|----------------------------------|--|----------------------------|
| Formalin.                        | Solution of Formaldehyde.              | Liq. Formaldehydi.         |
| Vaselene.                        |  | Petrolatum.                |
| Carbolic Acid.                   | Phenol.                                | Phenol.                    |
|                                  | Comp. Acetanilid Powder.               | Pulv. Acetanilidi Comp.    |
| Trional.                         | Diethyl-sulphone-methyl-ethyl-methane. | Sulphonethylmethanum.      |
| Sulphonal.                       | Diethyl-sulphone-dimethyl-methane.     | Sulphonmethanum.           |
| Sodium Sulphocarbonate.          | Sod. Paraphenol sulphonate.            | Sod. Phenolsulphonas.      |
| Vanillin.                        | Vanillic Aldehyde.                     | Vanillinum.                |
| Salol.                           | Phenyl Salicylate.                     | Phenylis Salicylas.        |
| Chloral.                         | Chloral Hydrate.                       | Chloralum Hydratum.        |
| Resorcin.                        | Resorcinol.                            | Resorcinol.                |
| Spts. Glonoini (Nitroglycerine). | Glyceryl Trinitrate.                   | Spts. Glycerylis Nitratis. |
| Naphthol.                        | Beta-Naphthol.                         | Beta naphthol.             |

The fluid extracts have been changed to fluid-extracts. The abbreviation of this would naturally be Fluidext. or Fl'ext., or possibly Flxt. In the alkaloidal salts the ending has very properly been changed. Thus Quinine hydrobromate has been changed to hydrobromode.

All hydrochlorates are now hydrochlorides.

Patented articles could not be introduced, as the Convention instructed the Committee of Revision to this effect.

*Changes in Strength:* In conformity with the recommendation of "the International Conference for the Unification of the Formulas of Heroic Medicines," held in Brussels in 1902, that certain preparations of heroic remedies be made of uniform strength in the pharmacopœias of different countries, the strength of a number of the tinctures have been changed. These changes

are so marked, in some cases, as to change the doses very materially. It may at times be desirable to indicate the edition of the pharmacopœia intended to be followed. This may be done by appending the year of the *U. S. P.* thus:  $\mathcal{R}$  Tinctura Aconiti (1900), or *U. S. P.* 1900) 3 i. Unless so designated the latest edition will always be followed in compounding the prescription. As the changes in strength of a number of the potent tinctures is very considerable, there is a corresponding change in doses. We append a list of the most important changes in doses based upon these changes in strength. In computing the average dose I have taken the average adult dose published by the Committee of Revision, as the present dose, and calculated the old dose from that:

|                             | Old Dose.<br>Minims. | New Dose.<br>Minims. |
|-----------------------------|----------------------|----------------------|
| Tincture Aconite.....       | 3                    | 10                   |
| Tincture Belladonna Flor..  | 5                    | 8                    |
| Tincture Veratrum Viride..  | 3 to 10              | 15                   |
| Tincture Hydrastis Can....  | 30                   | 60                   |
| Tincture Lobelia. { Expt .. | 8                    | 15                   |
| { Emetic .                  | 30                   | 60                   |
| Tincture Cannabis Ind. ...  | 6                    | 10                   |
| Tincture Colchicum Seed..   | 20                   | 30                   |
| Tincture Digitalis.....     | 10                   | 15                   |
| Tincture Gelsemium .....    | 5                    | 8                    |
| Tincture Hyoscyamus ....    | 25                   | 15                   |
| Tincture Physostigma ....   | 10                   | 15                   |
| Tincture Sanguinaria .....  | 10                   | 15                   |
| Tincture Squill .....       | 10                   | 15                   |
| Tincture Stramonium .....   | 5                    | 8                    |
| Tincture Kino .....         | 30                   | 60                   |
| Tincture Benzoin Comp. ..   | 24                   | 30                   |
| Wine of Colchicum Seed...   | 20                   | 30                   |
| Syrup of Iodide of Iron.... | 15                   | 30                   |
| Tincture Nux Vomica.....    | 6                    | 10                   |

The following tinctures have been doubled in strength, and the dose is therefore reduced to one-half that we have heretofore used:

Tincture Cantharides.  
Tincture Capsicum.  
Tincture Rhubarb.  
Tincture Strophanthus.  
Tincture Tolutan.

Also Liq. Ferri et Ammon. Acetat.

Prescribers should make themselves familiar with these changes in doses at once.

There have been introduced into the *U. S. P.* a number of mixtures, to take the place of popular mixtures put on the market by manufacturers, and which have the advantage over these of having a fixed standard of composition.

Some of these are the following, although they are not all new to this edition:

Dilute Hydriodic Acid (Aqueous Solution).  
Hamamelis Water.

Liquor Antisepticus.

Elix. Iron, Quinine and Strych. Phosphates.

Syrup of Iron, Quinine and Strych. Phosphates.

Glycerite of Iron, Quinine and Strych. Phosphates.

Emulsion of Cod Liver Oil.

Emulsion of Cod Liver Oil with Hypophosphites.

Emulsion of Turpentine.

Extract of Cascara Sagrada.

Aromatic Fluidextract of Cascara Sagrada.

Extract of Malt (Thick Syrup).

Compound Solution of Cresol.

Compound Laxative Pill (Aloin., Strych., Belladon. and Ipecac).

Solution of Acetate of Iron and Ammonia (Basham's Mixture).

Pills of Podophyllum, Belladon. and Capsicum.

Compound Acetanilid Powder.

Effervescent Magnesium Sulphate.

Compound Syrup of Hypophosphites.

Wine of Cocoa.

Cataplasm of Kaolin.

Solution of Sodium Phosphate.

The articles these preparations are intended to replace will readily suggest themselves.

The tincture of catechu has been dropped, or rather the compound tincture of gambir has been substituted for it, because of the difficulty in getting *acacia catechu*. The average adult dose of preparations has been given in both metric and English measures, with the distinct understanding that these doses shall not be obligatory, but as a general guide to physician and pharmacist.

A feature of the new *Pharmacopœia* is the largely increased number of preparations for which assay processes are furnished, and consequently an exact standard of strength and purity fixed. The tendency is to greater accuracy and a more scientific treatment of our medicines. This is much to be desired, from a therapeutic standpoint, and it is to be hoped that it will soon lead to greater uniformity of therapeutic results.

The metric system has been adopted throughout the work, although as above stated, the doses are given in the English measures in parenthesis. Every physician should have a copy of the *U. S. P.* and become familiar with it, and adopt it as a standard reference book and guide. It is to be regretted that many physicians are willing to obtain their information at second hand, or remain inexcusably ignorant of the medicines they ask their patients to swallow.

## CHOLELITHIASIS.

BY J. M. VAN COTT, M.D.

Historical: No reliable testimony comes from the ancients on this condition. Hippocrates and Galen give brief reports of pain in the hepatic region, and of icterus following obstruction without fever, but these cannot be differentiated from others of renal colic. This is probably due to the different environment, and mode of living and dress in those far back times. On the other hand the acute powers of observation at the bedside and in the anatomy room of the Greek physicians tend to prove the relative rareness of cholelithiasis then as compared with the present time. In the middle age, according to Marcellus Donatus, Gentilis of Foligno first described calculus of the gall bladder in a body he embalmed in the 14th century. Gall stones were first described by Antonius Benevenius in a woman suffering with pain in her hepatic region in whom he found "calculi in the gall bladder and in a saccular dilatation in the vicinity of the liver." From this time on there have been various theories of the origin of biliary calculi. Paracelsus was the first to regard them as due to chemic changes in the body. In his consideration of the "tartaric diseases" (1563) he speaks of "stones in the liver" as deposits of materials appearing in the same way as "urine stones from the urine." The scope of this brief sketch does not permit speaking of the reported cases in 1565 of Jh. Kentmann, in 1570 of Ferrandus, in 1573 of Coiter, and of Arculanus of Verona, and Fabricius Hildanus in 1612. The anatomic investigations of Glisson in 1654 were of great significance. Wepfer confirmed these observations in 1658, which laid the foundations for a truer knowledge of the structural relations in cholelithiasis. Following these came the discovery by Malpighi of mucous follicles in the gall bladder, which was very important in its bearing upon catarrhal conditions of this organ. As knowledge of normal and pathologic anatomy increased much was learned of the presence and effect of calculi in and upon the gall bladder; but of the etiology of these occurrences little was known until very recently. As to the composition of gall stones the following brief statement may be of interest:

Guidetti, pupil of Bianchi, differentiated two varieties of gall stones: 1, black, hard, and not



combustible, composed of biliary pigment and calcium carbonate; 2, lighter, soft, smelting and burning in the flame, composed of cholesterine. The principal ingredients of gall stones are: Cholesterine, bilirubin combined with calcium and calcium carbonate. In less quantity are also often found phosphate of lime and magnesia, calcium sulphate, gallic acid, sodium, potassium, free bilirubin, silicic acid, copper, manganese, and in animals zinc. Mucus is always present and on solution a nitrogenous material from the desquamated epithelium of the mucosa of the G. B.

Analyses of the stones yield various relations of the separate ingredients. Cholesterine can form 90% of them (v. Planta & Kekulé). Small, dark stones from the bile channels of the liver preponderate in pigmented lime and lime carbonate, and commonly contain copper, iron and manganese combined with bilirubin. Free bile coloring matters are only seldom found in the concrement, and in small quantity, as a result of absorption from surrounding bile.

Uric acid is also occasionally found in gall stones (Stockhardt & Marchand).

Aside from bilirubin and biliverdin, other coloring matters have been found, i.e., bilihumin, bilifuscin, biliprasin.

The color of gall stones depends essentially upon the amount of contained bile pigment. With high cholesterine per cent. nearly white, with a small per cent. of bile coloring matter golden yellow, with a large per cent. of the same red-brown to blackish. The stones are never regularly colored in all parts.

The consistence depends equally upon the composition. With increasing per cent. of chalk come the degree of hardening, whereas fresh cholesterine stones may be scratched with the finger nail or crushed with the fingers.

Recent concretions are often very soft. The calcareous periphery is usually hardest and commonly no thicker than a butterfly's shell, and contains a grumous mass of cholesterine. The form is various, according to the number of stones and place of origin. Where numerous medium size stones are present in the gall bladder, they flatten themselves in the soft condition against each other through pressure from the contracting gall bladder: thus octahedra and tetrahedra obtain. The surface of the stone in contact with the mucosa is usually round and rough, that opposed to another stone flat and smooth.

Large isolated stones are round or oval and

more or less in form of the cavity in which they originate. Nodular, mulberry-formed concretions may originate from fusion of numerous small stones, which are covered in common with new layers of concretion. Large numbers of small stones become rounded by contraction of the gall bladder. Loaf-shaped and "bowed" stones are also rarely seen.

Tubular and coral formations are often found in the bile channels. Solution of the hard portions or chemical changes lead to crumbling of the stones, which are found in the gall bladder or passed in feces.

Specific Gravity. Dry stones with air cavities float in water. Varies according to composition, according to Batillat, 1.966-1.580.

Meckel von Hembasch makes eight classes of gall stones, of which some are only steps in development. 1. Numerous cornered stones. 2. Numerous wart-like stones. 3. Brown solitary stones, round or oval form, with varicolored strata. 4. Granular structureless stones with rough surface and rich in chalk and pigment. 5. Black jagged stones, small and pretty hard. 6. Stones with metallic glistening appearance, loosely stratified. 7. Stones formed principally of calcium carbonate, brittle, jagged, brown externally, chalky and white internally.

Naunyn, based upon similar investigations, comes to practically a similar though better carried out classification:

1. Pure cholesterine stones, firm, usually spherical, pure white or yellowish, more seldom darker color on surface and smooth. Section reveals usually no strata, but clearly radial crystalline lines and only a little brown deposit, particularly in the center.

2. Stratified cholesterine stones, usually firm, on drying cracked and brittle, with various surface color, often clearly faceted. On section shows more or less clearly strata various in thickness and color, the outer strata commonly amorphous, the central always clearly crystalline, with stripes radiating outwards to surface. Contain 90% cholesterine, also small quantities of bilirubin (brown) chalk, and biliverdin (green) chalk, and a fairly rich deposit of calcium carbonate.

3. Common gall bladder stones, of various sizes, shape and surface color. The greatest number of stones belong to this variety. Rarely they are of the size of cherries, usually smaller, generally faceted, yellowish, brown or white, seldom green on the surface. When fresh they are

commonly white and easy to crush; dry they are hard and often shrink without cracking. They are composed of a clearly stratified shell, soft, slimy nucleus, an irregularly formed cavity containing a golden alkaline fluid. Microscopically a crystalline structure is never seen.

4. Mixed bilirubin-chalk stones, mostly the size of a cherry or larger; single or 2-3 in the gall bladder or gall duct composed entirely, or excepting a relatively small nucleus, of concentric strata of a red-brown or dark-brown, seldom entirely firm mass, which shrinks on drying, and shows clefts and cracks. The strata peel off easily, so that they may be found in scales. The mid-strata are often lighter and composed of large crystals of cholesterine. Much cholesterine is also found in the outer strata; the remainder is essentially bilirubin-chalk.

5. Pure bilirubin stonelets, of small size, sand grain to pea, appear in two varieties:

(a.) Solid black-brown concrements, irregularly jagged, usually soft, occasionally inclined to "bake" together. The large are formed in this manner from smaller. When dried they shrink a great deal and easily break down.

(b.) Harder and very various in form, often stem-like, with even or depressed surface; steel-gray or black color and metallic sheen, particularly apparent after polishing; they are firm, hard and brittle. The larger stones present a spongy structure. These little stones of both sub-varieties are composed almost exclusively of calcium combinations with bilirubin and its derivatives, liverdin, bilihumin and biliprasin.

Rare forms of stones, according to Naunyn, are (a) amorphous and incompletely crystalized cholesterine stones, having the appearance of small pearls with a nucleus of "black bilirubin," or the biliverdin, bilihumin and biliprasin.

(b.) Calcium stones, very hard, principally formed of  $\text{Ca CO}_2$ , at once prickly or smooth, with cavities containing cholesterine and pigmented chalk, etc.

(c.) Concretions, inclusions and conglomerate stones. Stones whose peripheries reveal the properties of mixed bilirubin-calcium, with a pure cholesterine nucleus, or a cholesterine stone with a black bilirubin-calcium nucleus. Also several stones baked together in a conglomerate mass by a common peripheral concretion. Special foreign bodies act rarely as nuclei in gall stones: e.g., *ascaris lumbricoides* (Lobstein), a fragment of *distoma hepaticum* (Bouissen), a needle

(Nauche), a plum-pit (Frerichs). Spheres of mercury were found by Frerichs, Lacarterie and Biegel within gall stones in persons who had taken this chemical. Recently new formed calculi have been observed twenty months after cholecystotomy which had deposited around sutures that had migrated into the gall bladder (Homans).

(d.) Mouldings from the biliary ducts, rare in man, usually of bilirubin-calcium, very rarely cholesterine (Naunyn), more common in cattle (Glisson). Etiology: Women are oftener afflicted than men. The rapidity of development of calculi is difficult to determine; they can attain the size of a cherry in seven months (Hanse-mann). Seldom observed before the twentieth year; they increase in frequency as age advances. They appear to be endemic to some localities. The most recent and commonly accepted theory of the genesis of biliary calculus is Naunyn's, i.e., that the bile in the gall bladder always contains desquamated epithelium from the mucosa, around which cholesterine may become deposited in increasing amount. The same may take place around thick mucus, as a result of cystic catarrh. Both conditions result from infection of the gall bladder. The infection is either hematogenous, or *in reverse*, from the duodenum. Normally bile is sterile, but where obstruction to the flow of bile from the gall bladder obtains, infection is common. The colon group is the most common source of infection, but others, e.g., *B. typhosus*, are enumerated, and operate to induce cholecystitis catarrhalis, with abundant desquamation of epithelium. From the blood streptococci are most commonly observed. They induce cholecystitis, and in vomited bile have been regarded as diagnostic of sepsis. Aside from micro-organisms and epithelial desquamations, obstruction to the flow of bile from the gall bladder forms an important factor in the etiology of gall stones. With the stasis comes the tendency to inspissation of bile and the migration of organisms into the gall bladder. Obstruction may be caused by conditions inside or outside of the bladder—inside from parasites, outside from stenosis of the common duct, angulation or tension of the same, and as a result of tight lacing gravidity is a supposed cause in women.

Certain anomalies of retrograde tissue metamorphosis are also supposed to be influential in the formation of gall stones: gout, diabetes, obesity and general diseases, as arteriosclerosis and rheumatism.

## PATHOLOGIC ANATOMY.

In autopsies gall stones are commonly found. In 1,034 sections in Munich, 66 or 6.3 %; in Copenhagen in 91,722 sections, 347 or 3.7%. Halk found them in 4,140 autopsies on people over 50 years in 29%. Hünnerhoff (Göttingen), 4.4%; Friedler (Dresden), 7%; Frank (Wien), 10%; Schröden (Stralzburg), 12%; Roth (Basel), 9-10%; Peters (Kiel), 6%. Most of the cases gave no symptoms of calculus. According to Poulson only 9% gave positive histories *intra vitam*.

Commonly one large stone is present in the gall bladder, but there may be a vast number. Hoffman reports 3,642 in a case. A gall bladder in Otto's collection contained 7,802, and Naunyn counted 5,000 in one of his cases.

By far the majority of stones are in the gall bladder itself; less commonly they are found in the common duct, hepatic duct, and large hepatic-like channels.

Gall stones often lie free in the gall bladder and often are adherent to the wall and bound by fibrous bands. Rarely a fibrous connective tissue capsule confluent with the mucosa surrounds a number of stones. These have been known to perforate into the intestine and thus be eliminated. Stones are often found in crypts of the bladder wall, and in glandular bulgings. Trabecular hyperplasia of connective tissue and muscularis play a definite rôle here. Apparently ulceration from pressure also is responsible for the imbedding. To this corresponds also the fact that perforation with escape of the stone into some neighboring cavity or organ often occurs. Division and constriction of the gall bladder occur as a result of friction and inflammation, produced by the stone.

Changes are almost always observed in the wall of the gall bladder resultant from trauma, inspissation of bile and bacterial infection. It is usually enlarged and commonly projects beyond the lower border of the liver. The mucosa gives all the evidence of catarrh, degeneration, desquamation and regeneration of epithelium, small round-cell infiltration, superficial and deep necrosis, ulceration. As a result of this adhesions occur in various locations from consecutive peritonitis. The chronic irritation leads to general chronic hyperplasia of all the structures. The rough-cornered stones particularly produce these effects. The whole bladder may become calcareous. It may become greatly distended through stenosis of the

cystic duct, or plugging with the calculus. Where pyogenic germs gain entrée in such cases all degrees of acute inflammation may take place from localized areas in the mucosa to deep, severe phlegmon of the entire bladder, which may rupture or become extensively adherent to the peritoneum. Similar lesions may involve primarily one or all of the ducts. Ectasia, hyperplasia, mild and severe inflammation, perforation, all occur in these cases. The ducts regularly hypertrophy and become narrowed in calibre. Plastic exudate may form on the peritoneal surface of the ducts, produce adhesion and become organized, so that in the end the lumina of the ducts become so compromised as to make the passage of bile difficult. This produces general biliary stasis, with ectasia of the bile channels generally, then hyperplasia of all their coats, development of new bile canals, and finally hyperplasia of the connective tissue of Glisson's capsule. This is the biliary form of hepatic cirrhosis. Multiple abscess occurs where infection is present. Staphylococci, streptococci, colon and typhus bacilli, comma bacillus and pneumococcus have all been isolated from these abscesses. Purulent cholecystitis is commonly present at the same time.

Since the portal vein is confluent with the veins of the gall bladder and the ducts, it not infrequently happens that septic portal phlebitis leading to multiple septic portal thrombosis with abscess complicates the cholecystitis. Aside from abscess hepatic necrosis results from stasis of bile.

Gall stone abscess is commonly complicated with metastasis into the abdominal wall, diaphragm, intestines and lungs with resultant local purulent inflammation.

Carcinoma is often present with gall stones, which latter are supposed to follow and not produce the former, although this has recently been questioned.

Fistula of the gall bladder occur and open into the various organs and cavities of the body. When the fistulous opening is into the peritoneum general septic peritonitis results, which may or may not be fatal. Fistula also form channels into the lungs through which stones may pass, perforate the bronchi and be coughed up. Calculi may work out into the portal vein. Where cholelithiasis is associated with acute cholangitis and cholecystitis due to virulent bacteria, malignant endocarditis may result with involvement of the mitral and tricuspid valves.

**THE UNCERTAIN COURSE OF BULLETS IN GUN-SHOT WOUNDS.**

BY CALVIN S. BARBER, M.D.,  
Surgeon Kings County Hospital, etc.

The uncertainty in the outcome of a wound inflicted by a bullet insures for the subject of bullet wounds the continued interest of the surgeon.

Rarely does a bullet follow a course indicated by the direction of its entrance into the body; the probe, not often wisely resorted to, will occasionally trace its path. The penetrating X-ray often fails to aid the surgeon in some of the cases presenting the greatest difficulty.

A discharge of blood or of the contents of an internal organ does not always lead one to a satisfactory conclusion as to the location of the missile. In fact, to trace the track of the bullet for the source of the hemorrhage is often the most difficult way to secure its abatement.

When lodged in the deeper layers of the muscles of the back the discovery of a bullet is almost impossible. I recall an instance where the mate of a vessel was shot by a fellow sailor, the mate having the sailor by the nose at arm's length. Two shots were fired, both bullets entering the right arm at the posterior edge of the deltoid muscle. A probe failed to detect either bullet as did the Röntgen ray. (This was in the early days of X-ray work). The man died after a time from sepsis and although a most thorough examination was made, but one ball was found, *post mortem*, and that in the lumbar region of the back close to the spinal column. Other instances quite as instructive are common. Among others seen recently is one which illustrates the irregular and erratic course sometimes pursued by these missiles.

It is well to bear in mind the position in which the wounded person was when shot, the distance from the weapon, and the amount of the charge in the cartridge. These facts are considered to be of aid in locating the bullet. All these facts have weight in arriving at a diagnosis, yet it is rarely that we have such data, especially when the patients are brought to us by an ambulance in response to some hurry call.

A suicidal attempt, a street quarrel or even a wound received in battle is seldom described by two persons alike. Therefore we are obliged to give considerable latitude to the testimony of witnesses in reaching conclusions.

The following case in view of the findings at

autopsy is interesting. The patient, a powerful muscular negro, 58 years of age, was shot in a street fight. Some claimed he was sitting, others standing, when shot. The size of the ball was a 38 calibre. Four shots were fired, two striking him in the head, one on either side, passing along under the scalp and out at the occipital region. Neither of these were worthy of care so little inconvenience did they cause.

A third shot entered his body at the lower border of the sixth rib on the right side and apparently passed into the chest. A probe entered about one inch in an upward and inward direction, but no bullet could be detected.

The fourth shot must have been received from the side, as the point of entrance was about a finger's breadth above the anterior superior spinous process of the ileum on the left side and could be traced easily for four inches to a point just over the bladder where its course was lost. It was thought to have been lost in the muscles of the abdominal wall.

When admitted this patient had a rectal temperature of 100.5; pulse, 60; respiration 20, and was bathed in a profuse perspiration. Owing to the close proximity of the lower wound to the bladder I had the urine drawn and the bladder washed with boracic solution. The urine seemed clear, as did the return flow of the washing solution. Very shortly after some markedly bloody urine was voided. With these symptoms presenting nothing was left but to do an exploratory operation, our belief now being that the washing had been imperfect and that the lower wound would be found to have extended into the bladder. The wound in the region of rib gave us absolutely no marks to assume from or proceed by.

The abdomen was opened in the median line, a guide having been passed from the entrance of the bullet at the anterior superior spine of the ileum to a point at median line. The guide was readily found, the wound extending into the abdomen.

A catheter passed into the bladder proved by exploration from within that that organ was not wounded. Much free blood was found in the pelvis.

Extended search brought to light several wounded points upon the intestines. Abdominal cavity was cleared of blood, the intestines cared for in the ordinary way. A thorough flushing of abdomen returned clean. No other wounded or bleeding points being discernable, the wound was closed, a good quantity of saline having been left

within. The patient was returned to bed in good condition. Next morning temperature was 98.5, pulse 72, respiration 28. He passed a comfortable night as he did the day following. Urine still contained a slight amount of blood. On the same day he voided 22 ounces of clear urine. Bowels moved three times with no evidence of trouble in that direction. Three days after admission he was taking nourishment well, passing normal urine, and all the conditions were good. The night of the third day he complained of pain in the wound and abdomen; temperature increased to 101, pulse 100 to 112, with a sudden collapse coming on. He gradually went from bad to worse and died ninety-six hours after admission.

I was fortunate in seeing this case autopsied. So without going into elaborate details I will give the findings. The injuries to cranium did not prove of any gravity. The wound made by the bullet which entered at the sixth rib did not go in an upward and inward direction as was supposed, but to the contrary downward and backward, as the course was marked through the right lobe of the liver and through the upper extreme end of right kidney, only slightly injuring its structure, passing somewhere into the muscles of the back where it could not be found.

Tracing the bullet which entered just above the anterior superior spine of the ileum but little can be added to that which has been said, running between the layers of muscles its course was deflected so as to enter the abdomen at about the median line and was found on left side of vertebral column just posterior to the pancreas.

A little free blood was found in the abdomen at the time of autopsy. The man undoubtedly died from hemorrhage, the main source of which was from the liver. The primary hemorrhage ceased when the man was first operated upon. The blood in the urine was explained by the injured kidney.

Cases in which it is impossible to accurately trace the course of bullet wounds are constantly occurring and a report of more cases would be of material aid to all of us. We cannot always expect to find the source of the alarming symptoms but by the study of more extended reports our senses will be sharpened and some of the points we are liable to pass by will be more closely investigated, meantime realizing that the unexpected is likely to be found.

## RELIEF OF HAY FEVER BY RADICAL INTRA-NASAL OPERATION.\*

BY ALEXANDER C. HOWE, M.D.

Intra-nasal deformity, in one or more of its many forms, has been present in a very large percentage of the cases of hay fever examined by me.

These mal-formations, or mal-positions consisted of deflected and thickened septa, septal spurs, hypertrophied and cystic turbinates, polypi and polypoid degeneration, and bony and membranous synechia. One or more of these conditions have complicated almost every case. The nasal defects were most frequently found in the upper and anterior portion of the nasal passages. These defects consisted chiefly of septal hypertrophies and deflections. The hypertrophies were real or tissue, rather than vascular, and were frequently from  $\frac{1}{4}$  to  $\frac{3}{8}$  of an inch. In some, the thickening was largely due to an increase in the bony and cartilaginous tissue. The increase was in the middle of the perpendicular plate of the ethmoid and the upper portion of the triangular cartilage. The bulging, or local thickening, of the septum produced pressure on the lateral walls in narrow nasal passages. In other cases, a deflection of the septum pressed its thickened portion against the middle turbinate and lateral wall on one side. These pressure areas, due to thickened and deflected septa, seemed to be the chief nasal defects in the cases I operated on. There were other defective conditions in other parts of the nasal passages, but they were usually coincident with pressure areas in the upper anterior part of the nasal vault. The chief sensory symptoms of hay fever, rose cold, dust coryza, and other similar conditions of vasomotor dilatation and paralysis are grouped around this region of the nose. There is the supraorbital pressure and pain, lachrymation and conjunctivitis, the sneezing and burning irritation and distressing tickle—all in the vicinity of that portion of the nasal passages. Some cases have just as distressing post-nasal and pharyngeal symptoms, but the distressing symptoms are in most cases in the anterior portion of the nose. All these symptoms indicate the involvement of the entire area supplied by the ophthalmic branch of the fifth nerve. This branch is exclusively sensory. Its fibres rise from the Gasserian ganglion. Of its three terminal branches, the frontal is distributed to the frontal integument and frontal sinus: the lachrymal to the lachrymal glands, and the con-

\* Read at a meeting of the Medical Society of the County of Kings, September 19, 1905.

junctiva, and the nasal is distributed by one branch to the mucous membrane of the anterior and upper portion of the septum, by a second branch to the anterior end of the middle turbinal and anterior lateral wall of the nasal passage and by a third branch to the integument of the dorsum of the nose from the root to the tip. These branches are all sensory, and the area of their distribution is the chief seat of the symptoms of hay fever and similar conditions of vasomotor neurosis of the respiratory tract. The rest of the nasal passage is supplied by sensory branches from Meckel's ganglion. Its connection with the Gasserian ganglion may account for post-nasal irritation being referred to the parts supplied by the ophthalmic.

Certain individuals have a neurosis, or irritability of the sensory nerves, distributed to a part or the whole of the respiratory tract that renders them susceptible to certain irritants suspended in the atmosphere. If the neurosis is nasal, it is called catarrhal; if bronchial, it is classed as asthmatic. The presence of certain forms of pollen produces a group of symptoms known as hay fever. Earlier in the season, a similar but milder condition known as rose cold is due to a different irritant. In other cases, a dust storm or smoke from a locomotive will cause a vasomotor paresis and hypersecretion. Each case seems to be particularly susceptible to some certain irritant. All these various forms of vasomotor catarrhs are similar to hay fever, but lack its periodicity and severity. Repeated occurrences of catarrhal attacks frequently result in more or less prolonged attacks of asthma and asthmatic bronchitis. The asthmatic attacks may be due to a neurosis that give no nasal symptoms, but yet are, probably, associated with nasal irritation.

This neurosis is found most often in the better educated, and well-to-do classes—people who have the means with which to keep themselves in healthful surroundings; and yet, regardless of their general good health or robustness, their attacks recur at the regular time. This would indicate that the neurosis is not greatly influenced to any great extent by general health.

The question arises: Are the symptoms of hay fever due to direct irritation of the nasal mucous membrane, or to irritation of the sensory nerves, reflexly causing a vasomotor paralysis, or to pressure upon the nasal branch of the ophthalmic—this pressure causing the vasomotor paralysis rather than the direct irritation of the nerve; or to an obstructed intra-nasal circulation due to pressure areas?

The hyper-secretion, the sneezing, the persistent tickle, and the pressure pain about the root of the nose are due to vasomotor paralysis and the retention of the secretions till they become irritating. It does not seem to me that the irritation of the ophthalmic nerve, or any other sensory nasal nerve, by pollen or dust causes the most distressing symptoms of catarrhal hay fever. These irritants may be sufficiently intense to cause an injection of the nasal erectile tissue, but the extensive and complete nervomotor paralysis, which is the cause of the most distressing symptoms of hay fever, is due more to intra-nasal pressure than to the direct effect of the irritant upon the mucous membrane or the sensory nerves. It is the mechanical interference with nasal circulation that makes possible the severe symptoms. For instance, the acute coryzas in those not subject to hay fever neurosis, have the same symptoms, only not so severe. If the nasal defects causing pressure areas in these cases are corrected, the attacks of coryza either cease or are diminished in severity. I recall a case of constant vasomotor paralysis with constant hypersecretion—complete nasal occlusion—burning irritation, sneezing and recurrent conjunctival irritation with pressure symptoms, that cleared up within twenty-four hours after removal of a large bony synechia. That would indicate that a pressure area interfering with intra-nasal circulation will cause just as complete vasomotor paralysis as can be produced by dust or pollen irritants.

Hence pressure areas are probably responsible for the difference in the severity of hay fever in different individuals. A hay fever neurosis may exist in an individual having perfect nasal conditions and yet not cause an attack.

The correction of nasal defects in a hay fever subject ought, then, to lessen the severity of the attacks, or prevent them entirely. Some of my results tend to confirm this.

Improvement in general health does not eliminate the trouble. The atmosphere cannot be freed from its irritants. Medicinal and serum treatment are failures. The removal of every condition that tends to aggravate or intensify the direct or reflex effects of the atmospheric irritants offers a possible means of relief. The anterior portion of the vault of the nose is the storm center of these attacks; and the most frequent nasal defects in these cases are in this area. Septal hypertrophy and deflection are the most frequent defects. What significance this tissue

hypertrophy has, I am unable to determine; but correction of the nasal defects in this area offers the best possible means of minimizing the symptoms of hay fever.

Until a year or so ago, no satisfactory method had been devised to correct septal deflections and hypertrophies in that area. The recent rapid development of the radical septal operations, however, now make it possible to correct any septal defect that will result in pressure areas from nasal irritation.

This work is done under a local anesthetic, requires very little after-treatment, no splints, and is usually entirely healed in ten days after operation.

The following is a report of the cases I have operated on for hay fever and similar conditions, and which I have been able to follow up to the present date:

*Case 1.* Male, 26. Saw him first in November, 1898. Gave history of severe attacks of hay fever on every trip to the country during entire summer months. Asthma developed as rapidly as the hay fever and necessitated sitting up all night, so that he was compelled to return to the city after 12 to 24 hours in the country. This began when about twelve years of age. Examination showed large exostosis on right side and the right middle turbinal jammed in between the lateral wall of the nasal passage and a high deflection of the septum. Removal of the spur and a portion of the turbinal has entirely freed him from nasal and asthmatic symptoms. He goes to the country without a return of symptoms, and yet on some of his trips the latter part of August, he feels as though an attack was impending. He has had no asthma at any time since.

*Case 2.* Young woman, 22; well educated; in good circumstances; physical condition good, when not suffering from attacks of dust coryza. Saw her April, 1900, for the first time. Gave history of severe attacks of coryza, with hypersecretion, and prolonged attacks of severe sneezing that would last frequently for hours, landing her in bed from exhaustion. Every dust storm or ride on a train on which soft coal was burned brought on one of these attacks. They occurred at any time of year and were no worse during summer months than winter. Examination showed both nasal passages free. The upper and anterior portion of the septum was greatly thickened and deflected to the right, so that the slightest injection of the erectile tissue of the septum caused pressure on the middle turbinals and lateral walls of the nose. On the left side of the

septum the hypertrophy was vascular, so that the cautery enabled me to reduce it satisfactorily. The hypertrophy of the right side was due to an increase of tissue and necessitated the removal of a considerable amount of tissue. The result was that she did not have an attack from April, 1900, to August, 1905. In May, 1905, her father's sudden death left them in greatly reduced circumstances and the support of the family fell to her. Worn out from the anxiety of the new responsibility, she came to my office August 6 with a severe attack apparently of hay fever, sneezing being the most persistent symptom. Examination showed a small polypoid mass on the edge of the anterior end of the left middle turbinal pressing against the inflamed septum. Its removal slightly relieved the symptoms. After 48 hours a large synechia on the right side, extending from the septum to the right middle turbinal, was removed and all symptoms of vasomotor paresis rapidly cleared up, and have not returned. The synechia on the right side resulted from my former operation, as she did not remain under observation till fully healed.

*Case 3.* Male, 46. Visited me first time June, 1904. Gave a history of having had severe attacks of hay fever, with typical symptoms, for more than fifteen years. These attacks began about the 10th of August and totally incapacitated him for business for from four to six weeks. They were accompanied by severe asthmatic conditions, so that sleep was frequently impossible. Similar conditions, but milder, occurred at any time during the year. Sleeping with window open, summer or winter, caused attacks of sneezing, hypersecretion, nasal occlusion, and supra-orbital pain. Going out of doors without hat or coat, even in hot weather, caused similar attacks. He is fairly robust and belongs to the better type of men. Nasal examination showed a long horizontal septal spur posteriorly on the left side, and a greatly thickened and deflected septum, filling the anterior portion of the right nasal passage from the floor to roof. June, 1904, I removed the septal spur on the left side. His mild attacks of coryza cleared up, and he was able to stop mouth breathing at night. He failed to return for further treatment on the right side. On the 29th of the following August he reported that he had been entirely free from nasal symptoms from the time of the operation to the previous day, the 28th of August, when he began to get what he feared was his usual attack of hay fever. This, however, proved to be an ordinary "cold in the head" that cleared up in two days. During the winter



of 1904-5 he reported an increasing tendency to slight attacks of coryza and asthma. He was sensitive to drafts, and was unable to ventilate his bed-room at night. In March of this year (1905), I corrected the reflection of the septum and reduced its thickness somewhat, with the result that his coryzas and asthma cleared up completely. Nasal respiration has been free, and he has not been obliged to shut himself in his bed-room at night or to put his hat or coat on whenever he stepped out of doors. He appeared perfectly free from all nasal symptoms till August 15th, when he developed a mild attack of coryza, or hay fever, which lasted till the 25th. On that day he consulted me for the first time since the beginning of the attack. Nasal examination showed the septum still thick enough to press on the right middle turbinal. He was given cinchonidia, but no local treatment, and in 36 hours his symptoms cleared up and he has remained free to the present time. In this case, I believe, a further reduction of the septal hypertrophy will give entire freedom from the hay fever irritant. He seems to have been relieved from milder attacks of vasomotor paralysis and asthmatic symptoms. In other words, his susceptibility to atmospheric irritants has been decreased to such an extent that he is practically immune to all but one, and that the most powerful.

*Case 4.* Male, 24; fairly good health. Holds responsible position in insurance company. Consulted me in April, 1904, for difficulty in nasal respiration, and a gradually increasing rose cold that began the latter part of May and gradually increased till the early part of August, when it always developed into a full fledged attack of hay fever. This had occurred every year for the preceding seven years. Nasal examination showed a prominent horizontal septal spur on the left side near the floor, a decided deflection of the upper part of the septum into the right nasal passage, and a cystic enlargement of the right middle turbinal. The septal spur was removed and the cystic portion of the middle turbinal excised. Free nasal respiration resulted. No rose cold or hay fever developed last year. The latter part of August, 1905, he had several attacks of sneezing, hypersecretion, and frontal pressure symptoms. They continued for two or three days and then cleared up entirely for several days when they returned. Compared with former years, the attacks were slight. He still has the obstructive deflection of the septum. This I expect to correct, as soon as the hay fever season is over. He was free from all

symptoms last year, this year they were much milder.

*Case 5.* Female, 21; belongs to well-to-do class; small, not robust appearing. Saw her June 1, 1905. Gave history of frequent recurring attacks of dust, or smoke coryza throughout the year; rose cold in June and July, and a well defined hay fever in August. This condition had existed for several years. The attacks during spring and summer were so frequent that a condition of sneezing, frontal pain and hypersecretion was almost constant. There had been apparently no asthmatic symptoms. Nasal examination showed a greatly thickened septum in the upper anterior portion, a long septal spur on the right side extending from the floor upward and backward, a polypoid enlargement of the posterior end of middle turbinal, and a large post-nasal lymphoid. June 12th, the thickening of the septum was reduced and the long spur removed. A persistent coryza that had existed for four weeks cleared up within 48 hours after operation. June 20th, the post-nasal lymphoid was removed under cocaine. July 10th, she reported entire freedom from nasal symptoms. September 5th, she reported perfect nasal freedom and comfort. There has been no suggestion of the former nasal symptoms, although part of the post-nasal lymphoid remains.

*Case 6.* Female, 53; very large, but not robust—belongs to the better educated and well-to-do class. Saw her March 1, 1905. Was then suffering from a severe attack of asthmatic bronchitis with persistent cough. She gave history of similar conditions having existed for many years, recurring at longer or shorter intervals through the year. Every August found her invalided for some weeks from hay fever and severe accompanying asthma. Nasal examination disclosed two small polypi on the left nasal passage, and both middle turbinas showed polypoid degeneration. A long bony synechia connecting the middle turbinas to the septum on both sides, a greatly thickened septum deflected into the right nasal passage, also complicated conditions. Removal of the polypi and polypoid tissue of the middle turbinas was rapidly followed by a clearing up of the cough and asthmatic bronchitis. The deflection and thickening of the septum was corrected and the bony synechia on left side was separated. Nasal respiration which had always been very deficient was improved to such an extent that mouth breathing during sleep stopped and a shortness of breath after exertion disappeared.

From the latter part of March to August 13th

she was entirely free from nasal and bronchial difficulties, and reported a better general health than she had experienced for years. At that date she reports she apparently contracted a cold on the chest and a mild attack of hay fever followed in a few days. The severity of the nasal and bronchial symptoms were much slighter than formerly. Circumstances prevented her from getting medical attention during that time. This I regret, for I believe the attack could have been cleared up at once at its onset. She was not invalidated by the catarrhal and asthmatic symptoms as formerly, and considered herself very fortunate, even though not entirely freed.

*Case 7.* Female, 27; servant. When free from nasal and pulmonary symptoms, strong and vigorous. Saw her first in February, 1905. She was then suffering from severe asthma and bronchitis, which made sleep almost impossible. She gave a history of mouth breathing, day and night, from childhood; of frequent acute coryzas with accompanying asthma, and of hay fever in August and September since she was 14 years of age. Nasal examination showed a general condition of vasomotor paralysis, anteriorly the septum was thickened and deflected to the right. Horizontal ridges, posteriorly, were in contact with middle turbinals. Small polypi were in the right nasal vault above the middle turbinals. A large lymphoid nearly filled the post-nasal space. The lymphoid was removed, the septal deflection corrected, the polypi removed, and an attempt made to remove the posterior septal ridge on the right side. From the time this work was complete till the last of July she was free from nasal symptoms; mouth breathing ceased, and she was free from asthmatic and bronchial attacks. From that time to September 5th she had four attacks of catarrhal and asthmatic hay fever. One of them was very severe and the others were about as usual. On the latter date nasal examination showed a good nasal condition, except a synechia where I had attempted to remove the right posterior septal ridge; pressure on the opposite ridge by the left middle turbinal, and the vault of the right nasal passage above the middle turbinal filled with small polypi. Except at these points the nasal passages were free. These defects, I believe, fully account for the return of the symptoms late in July, for it probably required that time for the polypi to again grow after their removal.

*Case 8.* Male, 18; stenographer; frail, anemic. Came under my observation July 29, 1905, for the first time. Gave a history of a per-

sistent nasal coryza with hyper-secretion, sneezing and frontal pressure pain, coincident with a severe cough and asthma. This condition had occurred during the past three years in June, July and August. Nasal examination showed a greatly thickened septum, pressing anteriorly against the right turbinal and lateral walls, and a sharp prominent septal spur posteriorly imbedded in the inferior turbinal. These defects were corrected, the catarrhal and asthmatic symptoms cleared up rapidly. The cough and free expectoration, while greatly diminished, still existed in the first week in September, and his temperature was 99.4-5°. At that time I did not have a chance to examine his lungs or his septum, so do not know what the remaining pulmonary lesion is.

*Case 9.* Male, 14 years of age. Saw him June 18, 1905, for the first time. He attends public school; is anemic and not robust in appearance; has been a mouth breather since 3 or 4 years of age. Gave a history of rose cold, beginning the latter part of May and gradually developing into hay fever the middle of August. The anterior 1-3 of his septum was greatly thickened so that both nasal passages were almost entirely blocked. He also possessed a very large post-nasal lymphoid. The latter was removed and the tissue and cartilaginous hypertrophy of the septum was reduced. This was done the week following his first visit. September 10th he reported to me that nasal respiration had been free and clear; the rose cold he had at the time of the operation had cleared up and remained so; and that he had not had a single symptom of hay fever to that date.

*Case 10.* School-girl of 14; large, unusually well developed and very robust. Saw her in May, 1904, the first time. She gave a history of obstructed nasal breathing for a long time, and severe attacks of hay fever occurring regularly about the 17th of August. These attacks had existed since she was 9 years of age. Examination revealed a large post-nasal lymphoid, hypertrophied tonsils, a deflection involving nearly the whole of the septum, and a spur on the septum at its greatest point of deflection. The lymphoids, tonsils and spur were removed, but the patient refused to submit to an operation for correction of the septal deflection. Nasal respiration was greatly improved, but in August, 1904 and 1905, her attacks of hay fever were as severe as formerly. The septal deflection encroaches upon the left nasal passage at the present time to such an extent that the slightest injection of membrane in its vicinity produces pressure.

**Case 11.** Female, 28; operator. Saw her first July 7th. She gave a history of severe attacks of sneezing, hyper-secretion, red and watery eyes, brow pain, beginning usually 1st of June and continuing till the latter part of September. She was subject to almost incessant "colds in the head" through the rest of the year. The history extended back for four years. Nasal examination showed a greatly thickened septum pressing on both middle turbinals and anterior lateral walls of the nose. A large spur filled the right nasal passage from the above thickening to the floor. This obstruction made nasal respiration almost impossible at any time and accounted for her mouth breathing. The thickened septum was reduced and good air space secured. At the time of operation she was still suffering severely from her rose cold that had begun early in June. All nasal symptoms cleared up rapidly; she remained free from her usual severe attacks during August. At present she reports a comfortable nasal condition and improved health.

In these results one case failed to get any relief, but the chief nasal defect remains uncorrected; four cases were entirely relieved from the lesser forms of vasomotor paralysis, and the severity of the attacks of hay fever greatly mitigated, but not entirely relieved; seven cases were entirely freed from all symptoms. In every case the asthmatic symptoms were decidedly benefited. In every case the general health improved decidedly and most of the nasal symptoms, other than the hay fever, cleared up or were lessened. While these results do not show a uniform immunity from hay fever, yet in all instances but one the distressing symptoms were greatly lessened, and in more than half the cases entire freedom from the attack existed.

The milder forms of vasomotor neurosis, such as rose cold and dust coryza, were cleared up entirely. The asthmatic symptoms were decidedly benefited, and only returned with the more severe irritants in August. Where the radical operation has completely corrected the nasal defects, there has been entire relief. In every case only partially relieved there still remain nasal defects that would easily account for their continuance. If there is any relief for this distressing condition that cripples so many for six to eight weeks every year, and incapacitates them to a lesser degree so often at any time of the year by its lesser forms, it must come through a radical or complete correction of the nasal defects that makes possible the distressing symptoms.

### THREE CASES OF HEART DISEASE.

BY EDWARD E. CORNWALL, M.D.,  
Visiting Physician to the Williamsburgh Hospital.

The three cases whose histories follow possess each some point of more than ordinary interest. The first, which is a case of myocardial disease, is noteworthy on account of its therapeutics; the second, which is a case of disease of the endocardium, exhibited a comparatively rare lesion; and the third, which is a case of pericardial disease, gave a clinical history and physical signs which strongly suggested a wrong diagnosis.

#### I. A CASE OF FATTY HEART.

The patient was a woman of eighty, weighing about 200 pounds. Her previous history mentions attacks of subacute rheumatism affecting the muscles and finger joints, an attack of grip when she was seventy-four, flatulent dyspepsia, and, for some years past, palpitation, shortness of breath on exertion, and occasional sinking feelings. During the year before I saw her the symptoms of heart weakness were so severe that she was able to get out of her house only four times; and the last time she went out, which was about four months before I saw her, she collapsed after walking less than half a block, and had to be carried home.

I first saw her on December 20, 1903. She was then suffering so much from weakness and dyspnoea that she was able to move only from her bed to a chair and commode. A tank of oxygen stood constantly beside her, from which she frequently found it necessary to inhale.

Examination of her heart showed increase in the area of cardiac dulness, muffling of the first sound and weakness of the second sound. The pulse was soft, very weak and very irregular.

Her urine was very acid, of a specific gravity of 1028, and contained a good-sized trace of albumin but no sugar.

As this patient was very self-willed and of an irritable temper, being excited to violent fits of anger by the most trifling causes, and as she was dyspeptic and at the same time a gourmand; in order to prevent excitement and dyspepsia from aggravating her cardiac disorder, it was necessary to pay special attention to her personal management and to regulate her diet and treat her indigestion. Without dwelling on this phase of the therapeutics, I will say that a compromise diet was the best that could be enforced in a house where the invalid's whims ruled absolutely and the average stay of a nurse was about

two weeks, and that the digestive disturbances which might have resulted from dietetic indiscretions were to a large extent prevented by two simple remedies: a half teaspoonful of a mixture containing a small dose of phosphoric acid with gentian and glycerin was given in water before meals, and a pill containing papain, soda bicarbonat and charcoal was given after meals. These remedies were given steadily for nearly a year and a half, with excellent results. Though the patient was occasionally troubled with indigestion, especially when she surreptitiously indulged her appetite contrary to directions, her gastric condition vastly improved, and was, indeed, as good as could be reasonably expected under the circumstances. In the treatment of her irritability much benefit was derived from a pill containing one grain each of asafoetida, sumbul and valerian.

The heart stimulant used with most effect in this case was strychnine sulphate. It was given at first in doses of a sixtieth of a grain four times a day, but the amount was gradually increased as tolerance developed until the patient was taking a thirtieth of a grain seven times in the twenty hours at the end of nine months, and a fifteenth to a twelfth of a grain at the end of sixteen months. Seven-twelfths of a grain a day given hypodermatically was the limit of tolerance in this case. Up to that dosage no toxic symptoms appeared, but any increase beyond it produced slight muscular twitchings.

Besides strychnine, which was given steadily for nearly nineteen months in the doses mentioned, auxiliary heart stimulants were employed. Aromatic ammonia in small doses p. r. n. was particularly useful. Four drops of tincture of strophanthus every three or four hours were given occasionally for short periods with apparent benefit. Whiskey was given throughout in small doses, the total daily amount never exceeding two ounces. Oxygen was always kept at hand, but most of the time was rarely called for.

Under this treatment the patient's heart action greatly improved, and soon she was able to walk around her room, and later to walk into adjoining rooms on the same floor, though she did not attempt to go down stairs. A year after I first saw her her stomach was probably in better condition than it had been for several years, and the trace of albumin in her urine had almost, though not quite, disappeared. She passed daily three or four pints of urine of a specific gravity of 1020 to 1030, in which usually there was an

excess of urates. Of course she became addicted to the use of strychnine and could not live without it, but it apparently produced no bad effects whatever.

This condition of comparative comfort was suddenly changed in the middle of April, 1905, by a severe emotional disturbance, attended with a violent fit of anger, which strained the weak heart muscle beyond its capacity to recover. From this time the patient steadily declined, until July 12, 1905, when she died. She was no longer able to walk around her room, but was confined to her bed. The condition of her stomach became so bad from passive congestion that she was able to take only peptonized milk and panopepton, and during the last two weeks only rectal alimentation was possible.

The treatment of her heart during this final period of three months included the constant use of nitroglycerin and morphine with the strychnine (all given hypodermatically). One two-hundredth of a grain of nitroglycerin was given seven times in the twenty-four hours with the strychnine, and morphine was given two or three times a day. At first the dose of morphine was only one-sixteenth of a grain, but it was necessary in the first month to run the dose up to over half a grain. Subsequently, it was reduced to a sixth or an eighth of a grain, and was kept at about that dosage until the end. Without the use of nitroglycerin and morphine, it is doubtful if the patient could have been kept alive during the last three months.

## II. A CASE OF ENDOCARDITIS.

The patient was a laborer, aged forty-five. Nothing was discovered in his previous history which bore any reference to his morbid condition, except the fact that he worked in a rosin factory, where he had to lift heavy weights. In November, 1904, he first began to suffer from dyspnœa on exertion, to feel weak, and to be troubled with a dry, hacking cough. These symptoms increased in severity until March 23, 1905, when he was admitted to the Williamsburgh Hospital.

On admission he was suffering from extreme dyspnœa and a distressing cough. He was somewhat cyanotic. His pulse was about eighty, very small, feeble and irregular; and the stethoscope showed that his heart action was more frequent than his pulse rate in about the proportion of three or four to two. The heart sounds were so feeble and rapid that it was difficult to make them out; and there was almost a delirium

cordis. No murmurs could be distinguished among them. The area of cardiac dulness was considerably increased. The area of liver dulness extended downward about an inch. There was dulness and bronchial breathing over most of the right lung. The lower extremities were moderately edematous. The urine was acid, of a specific gravity of 1020, and contained albumin and casts.

During the first week of his stay in the hospital the patient's condition grew steadily worse. He suffered extremely from dyspnoea and cough, and he was delirious in the night time. After the first week he had no more delirium, and his dyspnoea slightly improved, but it was always too great to permit him to lie down. He slept, usually with the assistance of a small dose of morphine, in a semi-sitting position. His heart action became somewhat less confused, but the improvement was not marked. During most of the time his pulse rate was between forty and fifty, while his heart beats were two or three times as numerous.

In the attempt to restore the lost cardiac balance in this case changes were rung on most of the commonly used heart stimulants. Digitalis in the form of the ordinary tincture and the fat free tincture was given in moderate and large doses, but without much benefit. Better results were produced by strophanthus, given at first in moderate, and later, after tolerance had been established, in large doses. Strychnine was given continuously, and whiskey and aromatic ammonia were given p. r. n. Morphine in small doses was necessary to relieve the dyspnoea and to carry the patient through frequent cardiac crises. The other heart stimulants tried in this case deserve no mention.

As this hopeless case advanced towards its inevitable end the symptoms of venous stasis increased. Edema, which was often considerable, though never extreme in amount, was for a time confined to the lower limbs, but later it appeared in the face and neck, and finally became general. There was moderate ascites, which was relieved by tapping and withdrawal of small quantities of fluid. Over the right lung dulness and bronchial breathing could always be heard, and usually a few râles, and in time the left lung became full of râles. The urine was diminished in amount and always contained albumin.

After a few months, when the heart sounds had become a little clearer, murmurs were distinguished. These murmurs were heard by me more distinctly than at any previous time on the day before the patient died. Then a systolic

murmur of moderate intensity in the region of the apex and transmitted a few inches in the direction of the axilla was made out, and another systolic murmur of a slightly different tone was audible in the region immediately around the sixth costo-sternal articulation. The aortic second sound could not be heard at all. The pulmonary second sound was audible but faint. Visible pulsation of the right jugular vein was noticed, but pulsation of the liver was not made out.

As a result of this last examination, the diagnosis, which had been somewhat in doubt before, was made positively. It was combined mitral and tricuspid insufficiency.

The autopsy, which was performed on September 18, 1905, within a few hours after death, confirmed this diagnosis. The heart was found much dilated with hypertrophy of both ventricles. It weighed two and half pounds. The flaps of the mitral valve contained flat vegetations and were thickened and retracted. The flaps of the tricuspid valves were also thickened and retracted and contained vegetations. Near the center of the rim of each flap of the aortic valve was a small vegetation a little larger than a pin-head, and the flaps were somewhat thickened and slightly insufficient. The pulmonary valve was normal. The inferior and superior venæ cavæ were greatly dilated. There was a soft, white clot in the right ventricle. The liver weighed three and a half pounds after it was emptied of its blood. Its apparent enormous enlargement was due to the dilatation of its veins. The right lung was tough and leathery, the left lung apparently normal. The kidneys showed the lesions of chronic congestion.

In the absence of an adequate previous history in this case, we can only conjecture what was the origin of the lesions found in the autopsy. It is a reasonable guess that the patient had rheumatism in childhood which damaged the three valves, but not sufficiently to prevent prompt compensation, and that the laborious occupation in which he engaged broke down this compensation.

### III. A CASE OF PERICARDITIS.

The patient, a laboring man of 42, was taken early in August, 1904, with pains in his shoulders which were soon followed by pain in his right chest below the scapula, fever, dry, racking cough, and dyspnoea. The cough and dyspnoea grew worse, and he became very weak. A physician who attended him diagnosed his case first as pneumonia and then as pleurisy.

I first saw the patient on August 24, 1904, when he had been ill about three weeks. He was then cyanotic, with a pulse extremely weak and irregular. The area of cardiac dulness was greatly increased and the heart sounds were very faint. Over the lower half of the right lung there was dulness on percussion and bronchial breathing and a few rales could be heard.

The patient was stimulated and immediately carried to the Williamsburgh Hospital. There, under treatment with strychnine, strophanthus, whiskey, etc., he steadily improved. In about three weeks the consolidation in his right lung cleared up completely, and at the expiration of a month he walked out of the hospital apparently cured except for some weakness.

The diagnosis which I made at this time was pericarditis complicating lobar pneumonia and delaying its resolution. The possibility that rheumatism in the shoulders occurred at the beginning of the attack and produced the pericarditis was considered, but the history was not sufficiently clear to allow that cause to be accepted in place of the more obvious one of pneumonia. There was evidence that the pneumonia existed, and the rheumatic history was vague as well as slight.

After leaving the hospital the patient still suffered from some dyspnoea on exertion, and was advised to confine his activities within narrow limits. This advice he disregarded on October 19, 1904, when he walked up two flights of steep stairs. Symptoms of dilatation of the heart followed, and the next day he was taken again to the Williamsburgh Hospital, where he remained until his death, which occurred April 23, 1905.

During this last six months of his history he had short periods of slight improvement, but on the whole his course was steadily downwards. Edema, which was at times considerable, affected chiefly his lower limbs and scrotum. His lungs were chronically congested, and he was harassed by a constant cough accompanied with profuse expectoration. His urine was diminished in amount and contained albumin.

The condition of this patient's heart after his second admission to the hospital was a puzzling one. The original diagnosis of acute pericarditis was changed to chronic pericardial adhesions, but an endocardial lesion was strongly suspected. The area of cardiac dulness remained large, and the heart action was always feeble and irregular both as heard in the chest and felt at the wrist. The pulse, which averaged about 100, was weak, small and irregular. Many and careful examina-

tions failed to reveal any valvular murmur, though a doubling of the first sound of the heart could be heard at the apex. This suggested a presystolic murmur, but it could never be identified as such. It was a click or pat accompanying the first sound. Several physicians who saw this with me inclined to the diagnosis of mitral stenosis, and the clinical course perfectly bore out such a diagnosis.

In the part of the treatment of this case which was directed toward relieving the cardiac symptoms most of the heart stimulants in good use were employed at different times. Strychnine, strophanthus, whiskey, ammonia and morphine proved the most valuable. Strychnine was given throughout in moderate doses. Strophanthus was given at first in moderate doses, and later, when tolerance was established, in large doses (thirty drops every four hours). This drug was continued during most of the time after it had been demonstrated that digitalis did not act well. Morphine was necessary to relieve the cough and tide the patient over numerous cardiac crises.

Sparteine was given a good trial in this case in large doses (half a grain four times a day) without proving its right to be on the list of our effective heart stimulants. I have never found good results follow the use of this drug, and believe that what little action it has as a heart stimulant is more than covered by other and better drugs.

The diagnosis was cleared up by the autopsy. The heart was found to be dilated with thickened ventricular walls. Its upper anterior surface was very firmly glued to the sternum by extensive adhesions, and downwards and backwards from the apex extended a tough adhesion as thick as a man's thumb. Between these two adhesions the heart was held fast. The valves were all normal except the aortic valve, two of whose flaps were united by an old inflammatory process for about one-sixth of their arc at their common base. The stenosis thus caused was not sufficient to account for the symptoms, which were undoubtedly due to the powerful adhesions. In fact, it was not possible to imagine how the trammelled heart could perform a satisfactory systole, and it probably never did so after these adhesions were fully developed. As the inferior adhesion, which was too large and strong to be torn away, gradually contracted, systole of the ventricles must have become more and more difficult. The peculiar sound heard in connection with the first heart sound was probably due to the tug made by the inferior adhesion at the beginning of systole.

The three cases whose histories have been briefly given were hopeless from the start, and the most that could be expected from their treatment was prolongation of life. In the therapeutics employed for that purpose a few practical points may be noted.

In the first case we see an illustration of the value of strychnine in cardiac insufficiency due to disease of the myocardium. In such conditions it is unquestionably our best drug. It also appears that this drug can be given for long periods, and after tolerance has been established, in large doses, without any noticeable bad effects. And old age does not seem to be a contradiction to its free use. In this connection it should be remembered that great differences in susceptibility to the action of this drug exist among different people, and the dose at first should be small. Also, small doses given frequently often produce better results than larger ones at rarer intervals.

Another interesting therapeutic fact brought out in the treatment of the first case is that nitroglycerin in small continued doses is a valuable adjuvant to strychnine in advanced stages of fatty heart. But though nitroglycerin played an important part in prolonging the life of this patient, it should not be forgotten that it is essentially an emergency remedy with a limited range of applicability. It is very rarely that it can be used with advantage in continued dose. I believe that its continued use should be reserved for desperate cases, such as the one described. Whether it is capable of doing harm when given for long periods is a question on which difference of opinion exists, but I am inclined to think that it does.

The power of morphine to carry a patient over a severe cardiac crisis was well illustrated in all three cases, and in the first case it is also worth noting what large doses the aged patient took without apparent hurt. Of course she died, but without the morphine she would have died two or three months earlier.

In the second case we see an illustration of what seems to be a good principle in cardiac therapeutics. It is this: In uncompensated valvular disease in which the prognosis as regards recovery of compensation is bad, strophanthus generally acts better than digitalis. And in dilatation of the heart from any cause where the prognosis is bad strophanthus usually is more effective than digitalis, though less effective than strychnine and alcohol when there is much myocardial degeneration. It can be used in con-

tinuous doses for long periods and in large doses after tolerance has been established.

Strophanthus is a cardiac stimulant in which my confidence has steadily grown ever since I first used it. I do not remember that it ever entirely disappointed me. With digitalis and strychnine it makes the "Big Three" of cardiac therapeutics.

146 Herkimer Street.

## TRANSACTIONS OF SOCIETIES.

### THE MEDICAL SOCIETY OF THE COUNTY OF KINGS.

STATED MEETING, SEPTEMBER 19, 1905.

The President, J. W. FLEMING, M.D., in the Chair.

There were about 100 members present.

The meeting was called to order and the minutes of the previous meeting read and approved.

#### REPORT OF COUNCIL.

The following candidates for membership have been accepted by the Council:

Edwin M. Beery, 313 Lafayette Ave.

Edward Eberle, Kingston Avenue Hospital.

#### NEW MEMBERS.

The following candidates having been duly proposed and accepted by the Council were declared, by the President, elected to active membership:

Paul Kavenaugh, 136 South Ninth St.

J. Cortelyou Rushmore, 470 Washington Ave.

#### APPLICATIONS FOR MEMBERSHIP.

Applications have been received from the following:

George Burhard, 187 Jefferson Ave., University of Munich, 1904.

Proposed by F. Weisbrod, seconded by R. S. Fowler.

John Hathaway Long, 97 Halsey St., L. I. C. H., 1903.

Proposed by Wm. S. Hubbard, seconded by Membership Committee.

John C. Merchant, 162 Engert Ave., Albany Med., 1903.

Proposed by C. D. Napier, seconded by R. E. Kinloch.

#### DECEASED MEMBERS.

The Chairman of the Historical Committee reported the following deaths:



Walter Bryan, A.M., M.D., died June 26, 1905, University of New York, M.D., 1890. Member 1891-1905.

George Wackerhagen, M.D., died July 25, 1905, P. & S., N. Y., M. D., 1869. Member 1870-1905.

Seth Dickinson Boggs, M.D., died August 10, 1905, Bellevue Medical College, M.D., 1887. Member 1887-1905.

Thomas A. Joye, M.D., died August 19, 1905, P. & S., Baltimore, M. D., 1875. Member 1878-1892.

Robert Ormiston, M.D., 117 South Elliott Place, died September 19, 1905, University Pennsylvania, M.D., 1858. Member 1861-1905.

#### RESOLUTIONS.

The following resolution was presented by the Council, and, on motion, duly carried, adopted:

*Whereas*, There is heard so much complaint of substitution by retail druggists in the compounding of physicians' prescriptions; and

*Whereas*, Our success as physicians in the cure of disease and the welfare of our patients are alike placed in jeopardy by the substitution of drugs other than those ordered by us; therefore, be it

*Resolved*, That we, the members of The Medical Society of the County of Kings do most heartily condemn the practice of such substitution, and call upon the pharmaceutical profession to safeguard with us the interests of the public by condemning all such acts of substitution.

The Secretary, on behalf of the Council, presented the following resolution:

*Resolved*, That the Trustees of The Medical Society of the County of Kings be, and they are hereby, authorized to issue seven hundred (700) bonds of fifty dollars (\$50) each, without interest, and sell the same among the members of said Society or among others and apply the proceeds thereof to the payment or reduction of the mortgage for thirty-five thousand dollars (\$35,000), now a lien upon the real estate of said Society, and that the President and Treasurer of said Society sign and seal said bonds. That five per centum (5%) of the bonds sold be redeemed in December of each year by lot, and providing that in case of the death of the original purchaser of a bond or bonds, such bond or bonds at the time of his death shall be among those redeemed in December next following his decease, and that the President be authorized to appoint a committee of thirty (30) from among the membership of the Society to dispose of these bonds:

A motion was made and seconded that the report be accepted and the recommendation to issue 700 bonds at \$50 each be approved.

An amendment was offered and duly seconded that action on this proposition be postponed until the October meeting, and that due notice of an intention to proceed with the consideration of this question be included on the October folder and sent to each member. On a *viva voce* vote the amendment was declared lost. The yeas and nays being called for, a rising vote was taken, and the President again declared the amendment lost.

The original motion was then put to the house and carried.

The following committee of thirty was appointed by the President in accordance with the resolution already adopted:

John Harrigan, John A. McCorkle, George D. Hamlin, R. L. Dickinson, Fred. D. Bailey, William D. Brader, George McNaughton, Chas. Scofield, John O. Polak, W. S. Applegate, H. B. Delatour, J. C. MacEvitt, J. M. Van Cott, A. T. Bristow, J. M. Winfield, G. R. Fowler, Wm. Browning, H. A. Fairbairn, C. N. Cox, J. E. Sheppard, W. C. Wood, W. F. Dudley, J. P. Warbasse, T. R. French, O. A. Gordon, W. F. Campbell, J. A. Lee, J. R. Stivers, W. A. Jewett, N. T. Beers, Paul Pilcher.

On motion duly carried, a vote of thanks was tendered to Dr. Fleming for his solution of the very important question of the debt of the Society.

#### SCIENTIFIC PROGRAM.

I. Paper: Relief of Hay Fever by Radical Intra-Nasal Operation. By Dr. Alexander C. Howe.

Discussed by Drs. Braislin, McClelland, Lutz and Collins. Closed by Dr. Howe.

Adjourned.

JOHN A. LEE,  
Secretary.

#### DISEASES OF THE GALL BLADDER AND BILE DUCTS, WITH SPECIAL REFERENCE TO THEIR RELATION TO DISEASES OF THE STOMACH AND INTESTINES

BY PROF. C. A. EWALD.

Translated from the German by Dudley D. Roberts, M.D.

As is generally known, our conceptions of diseases of the gall bladder and bile ducts have undergone a fundamental change in the last ten years. The development of stones and the in-

\* Published in *Modern Medical Library* series, by Dr. Krawski, Berlin; Dec., 1904.

flammatory processes have been more clearly explained to us. Through the researches of Bloch, Terrier, Bouchard, Mignot and others we know that cholecystitis, cholangitis and gall stones are all caused by a bacterial invasion. We also know that there must be a simultaneous invasion of bacteria and a stagnation of the bile. Fresh bile is sterile, and the passages are free from bacteria except at the lowermost end where there may be a few colon bacilli. As soon as the bile flow is blocked, we have the necessary condition present for the growth of bacteria.

The infecting bacteria enter the passages, usually, from the intestine, rarely from the blood. The researches of Scherrington gainsay a blood origin; on the other hand, Welch was able to demonstrate typhoid bacilli in the gall bladders of dogs even three or four months after their injection into the blood, although he could find them in no other organ.

It might be thought that in a bacteriæmia, a cholangitis would necessarily begin before or at least simultaneously with a cholecystitis; but this is not the case. It is very certain that the gall bladder is first attacked, and this with good reason, for it is a diverticulum in which transient stagnation is very readily induced.

#### NATURE OF THE BACTERIA.

The bacteria that may be the invaders are the colon bacilli, the typhoid bacillus, strepto and staphylococci and the pneumococcus. The cocci are usually present as a mixed infection where there is a suppurative process.

Riedel, finding the majority of cases studied by him had sterile gall-bladder contents, promulgated the idea of an "aseptic foreign body inflammation" due to gall stones. But Peterson found the contents infected in 46 out of 50 cases of cholelithiasis that he investigated.

The colon bacillus is present most commonly, and this, as we know, can be changed from a harmless parasite into a most virulent organism. We must grant that it reaches the bile ducts from the intestine. Mieczkowski was able to demonstrate the colon bacillus 18 times in the 23 cases that he studied, partly in pure culture and partly mixed with the cocci. In 41 studies by Merk, the bile was sterile in only 15, and in 26 cases there was the colon bacillus alone or with the cocci. It may, therefore, be thought that the absence of the organisms at the time of the search does not prove that they have not been present at all. They might, indeed, have died off, as is shown in the cases where bacteria are found in the stones but none in the bile.

It is possible that the bacteria other than the colon group can enter the biliary passages by way of the blood.

Chiari, in 22 cases of typhoid studied by him, found the characteristic bacteria in the bladder 19 times, 15 times alone and 4 times associated with other organisms.

#### INFLAMMATION AND STONE FORMATION.

The results of infection are inflammation and the formation of stones. Chiari in his cases found inflammation of the wall of the gall bladder thirteen times. Similar findings have been made by other observers, but they do not show such an immediate connection between bacterial invasion and inflammation. The stone formation is another result of the infection. I will not discuss at length how this comes about: it is made clear through the works of von Naunyn, Gilbert and Domenichi, Girode, Mignot and others. An infectious catarrh of the bladder wall is essential and, indeed, as Mignot showed, experimentally, and Miyak in Miculicz's clinic has substantiated, the stone formation is connected with a diminution of the normal virulence of the introduced bacteria. The desquamation of epithelial cells offers the first nucleus for the stone formation.

But the question here presents itself, how does it happen that certain circumstances present in one individual can lead to stone formation and in another individual have no such result? And is the formation of stones exclusively brought about through catarrh due to bacterial invasion or can other causes operate.\*

We all have colon bacilli in our intestines, but do not all have gall stones, but many of us may harbor a latent stone. Moreover, there is not an entrance of bacteria into the gall bladder in every case of typhoid. Even if we find stones we cannot say with certainty that the stone formed about the agglutinated bacilli: they might have entered into a preformed stone (included in its further growth).

According to the facts as presented by Chauffard, out of 68 cases of cholecystitis only 18 had had a previous attack of typhoid fever, and out of 66 cases of another nature only 15 had had a previous typhoid. Moreover, out of 171 cases

\* H. Ehret (*Zeit. f. Klin. Med.*) relates experiments showing the importance of resistance of the organism to infection. If dogs are artificially infected through the blood, it is difficult to set up a cholecystitis after a few weeks. Animals having had an experimental cholecystitis hardly react to colon bacillus. If new portions of the bile ducts are affected after cholecystitis has been in existence for some time, the symptoms are much less severe. If streptococci are injected where colon bacilli have been present for some time, a new rise of temperature will generally be noticed. Animals experimented on usually survive unless operated on during the attack of acute inflammation.—D. D. R.

of typhoid fever only 18 developed colic afterward; in only one case did colic appear soon after the typhoid was over, while in the other cases the shortest interval that elapsed before the development of the colic was many years. The stones are most frequently found in the gall bladder, far more seldom in the finer intra hepatic ducts. Now, if we take it for granted that there is always a predisposing catarrh, is there, indeed, always a bacterial infection that causes it? W. Hunter, relying on his published investigations concerning the poisoning by toluylendiamin, which brings about a pronounced catarrh of the bile ducts, when it is administered to animals, expresses the conviction that an injury can result to the walls of the biliary ducts from chemical substances carried in the portal vein. Manches supports this view. However, this does not mean that every poison that exerts a chronic irritation on the hepatic cells, for instance alcohol, particularly leads to the formation of gall stones; or, in other words, hepatic cirrhosis and gall stones are not so commonly associated in the same individual that a common cause can be presumed. It is an interesting fact that gall stones are frequent in certain families. Every experienced practitioner has observed examples of this. Du-four states that in 338 cases of gall stones, observed by him, there was a history of liver trouble in the direct line in 35 per cent., and in 20 per cent. a history of actual gall stone troubles.

#### CAUSATION OF GALL BLADDER COLICS.

Another important question is, when do the stones cause symptoms; or, on the other hand, are pains in the gall bladder region always caused by stones?

The general acceptance was that pains in the liver region—the liver or gall bladder colics—first happened when a stone passed from the gall bladder and squeezed into the cystic duct. There was no other explanation for the colics. They were supposed to be brought about through a reflex contraction of the bladder and ducts, which had for its purpose the discharge of the stone. But why does the stone proceed into the cystic duct, where, indeed, in the position assumed by the patient it must pass against the force of gravitation? For this a peristaltic contraction of the bladder from the fundus to the apex would be necessary, and of such an action we have no knowledge. The bladder contracts much more *in toto* and presses its contents out into the duct. We know that the bladder can temporarily swell up either from an increase of the fluid poured

out from the walls or through obstruction of the duct itself or through both of these causes. In such a condition there is more or less pain. Recent observations during operations have taught us that this condition without stones may cause severe colic. Neuser considers some of these cases to be "secretory neuroses." Moreover, Riedel, Kehr, Kruckenberg and others have seen severe and repeated colics where operation has disclosed neither a stone nor a deformity of the biliary passages but only a cholecystitis. There are also colics without strangulation and without stone that are best designated inflammatory secretion colics. An increased secretion must raise the pressure in the bladder, and a stone lying in the mouth of the cystic duct would be pushed in by the vis a tergo. Then contraction colics begin as a result of severe muscular contraction. In this way lithogenous colic is added to the inflammatory colic. Several authors, for instance Riedel, are of the opinion that the majority of colics are nothing but acute inflammations, which develop in the bladder holding stones or free from stones; the action is supposed to be a painful stretching of the walls. We might have two causes of bladder colics, one which rests in the bladder itself, and a second which, strictly speaking, proceeds not from the bladder itself but from the outlet passages—the passive inflammatory distention and the active contraction of the bladder wall and the ducts. Much more does the latter come into question according to my idea. An inflammatory swelling, even if it is intense, can only cause continuing pain, not actual colic, which is characterized by a sudden onset and cessation. The urinary bladder and the pelvis of the kidney may be distended, and their walls be inflamed, yet there is only a dull more or less severe pain, not an actual colic. Against the idea of conceiving a colic as a purely inflammatory manifestation is its instantaneous remission immediately after the passage of a stone. It is impossible that the inflammation could cease so immediately after the passage of the stone. The colic could not terminate so suddenly were an inflammation the cause. In the cases observed by Riedel, Kehr and Kruckenberg there was possibly a kinking of the neck of the bladder which was straightened out in bringing the bladder up into the wound. Or, perhaps, there was not a real liver colic but a "liver neurosis." At all events, in order to bring on a colic, there must be some obstruction in the course of the passages against which the musculature tries to act. I do not deny that such an obstruction may be in-

creased by an inflammation of the bladder or ducts.

Another fact throws doubt on the idea that colics are caused by inflammatory secretions. We have already seen that there are serious objections to the idea of an "aseptic inflammation." Now, in spite of the statement of Oertners, that colics are regularly associated with fever, I hold, with all other observers, that colics are accompanied with elevations of temperature in a decided minority of cases. Forster agrees with this: for instance, it was found by him in only 12 per cent. To be sure, Charcot has differentiated an hepatic fever with painful colics and an intermittent "liver fever" with occasionally rigors but without regular pains; these are, however, exceptions that merely prove the rule.

When fever develops in the later attacks we must suppose that some other infection has been added during the long course of the disease and is no integral part of the colic condition. It has been assumed that such fevers as occur in gall stone colics are similar to the so-called "catheter fevers." Against this is the fact that they may be present with stones, and the fact noted by Friedel Pick that the severity of the attack and the intensity of the fever do not run parallel. It appears more proper to speak of them, as does Charcot, as toxic resorption fevers.

It is also a fact that many colics occur immediately after various mechanical injuries and strong emotions; so soon in fact that no time would be present for the development of inflammation that could give rise to the colic.

#### DIAGNOSIS OF GALL BLADDER AND BILE DUCT LESIONS.

In the diagnosis of diseases of the gall bladder and bile ducts, three symptoms have always been considered cardinal—colic, jaundice and the presence of a swelling.

##### 1st. The colics.

In the diseases of the gall bladder, how commonly is colic a symptom? Unfortunately, we internists cannot present trustworthy statistics on this point, because our diagnosis, in so many cases, is not confirmed by operation. We are dependent on the statistics of the surgeons. The material of the Heidelberg clinic has just been published by Merk. It deals with 128 cases, and in these colic was present in only 56 per cent. I believe this number to be much too small, for in the past ten years I have seen 80 cases, and in only 2 cases were colics entirely absent from the history. To

be sure, my diagnosis was not always confirmed by operation.

In a great number the pains are referred to the middle line, not to the gall bladder region. According to Merk, this was the case 39 times in the cases cited. Fink even found that in 94 per cent. of his 375 cases the pains were alone complained of in the stomach region, while on the other hand, stomach cramps with pains in the liver region were present in only 5.4 per cent. Stomach cramps with shooting pains in the right shoulder were present in 9.4 per cent. They radiate from the course of the phrenic nerve and 4th cervical nerve towards the right shoulder and the right arm and even to the back and thighs. At other times there are diffuse pains over the entire abdomen. The duration of the attacks, the severity of the pains, and the frequency of the recurrences are entirely irregular. The attacks may discontinue for years or they may cease entirely without evident cause or therapeutic aid. Scepticism in regard to any particular remedy is, therefore, advisable, unless the stone has been passed. When icterus and tumor are absent, it is exceedingly difficult to exclude liver neuralgia, stomach lesions, diseases of the intestine, the kidneys and the pancreas.

For years a liver colic has been a subject of discussion. Such conditions have been reported by Stokes, Andral, Freirichs, Furbinger, Pariser and others. In the severity of the attacks, the manner of recurrence and the location of the pains they do not differ from true gall bladder colics. As differential diagnostic points we have their dependence on menstruation, their alternating type, the presence of other nervous conditions of a neurasthenic or hysterical nature. In many cases the colics may be induced by a certain irritant, such as alcohol, spices or tobacco. Jaundice, attacks of enlargement of the gall bladder and friction sound in the gall bladder area are not found. Finally a therapy for gall stones, particularly the Carlsbad cure, not only is of no benefit, but actually makes them worse. Betterment does result from general tonic treatment and measures directed toward correction of the nervous abnormality.

Of the stomach diseases, all those come into consideration that lead to gastralgia, simple catarrh, gastric ulcer, cancer, particularly that situated at the pylorus, and the neuroses of the stomach. In the intestine we have the diagnosis from appendicitis, intestinal colics and the herniæ of the linea alba.

We must think also of kidney stones with or

without hydro-nephrosis and sometimes torsion of the ureters and stretching of the ligaments due to a floating condition of the kidneys.

The latter conditions can be readily recognized by an exact study of the urine and a careful palpation of the belly with the intestine blown up with air, this procedure pushing a movable kidney down and back, producing a tumor in the flank with dullness in the lumbar region, dragging pains along the ureters, hæmaturia, and lastly the passage of a stone.

The recognition of an appendicitis is more difficult particularly if the appendix has an abnormal position, its apex up under the liver. Under such circumstances there is no wonder that appendicular colic is occasionally confused with gall bladder colic, and the operator is surprised by the unexpected findings. Here indeed the dilatation of the intestine with air introduced through the rectum is a valuable aid to diagnosis because the intestine can be palpated, its position being altered. When suppuration has occurred there is a leucocytosis and this is not the case in gall stone colics. According to the recent researches of Friedel Pick, there is a leucocytosis in empyema of the gall bladder just as in suppurative appendicitis. The absence of any leucocytosis between the attacks of pain argues against the presence of suppurative inflammation of the bile ducts.

The condition that I have described as "appendicitis larvata" (masked appendicitis) presents great diagnostic difficulties. In this form the pain is very diffuse, frequently in the form of colics which are referred to the lower liver region; indeed only a very certain diagnosis is possible where the appendix itself can be felt as a tender swollen body. This is most likely to happen if the intestine is distended with air after a previous complete cleansing.

The gastralgias, occasionally associated with slight icterus, which at times occur during menstruation, can cause confusion with attacks of gall stone colics.\*

Not a few of the colicky sort of conditions that are referred to the stomach really arise from the intestine; these may be of a purely catarrhal nature or be evidences of a tubercular or dysenteric process. There may be a colic due to an over-excited peristalsis which closely simulates a true hepatic colic. A careful study of the stools, marked painfulness of the intestine after moderate distension with air or water, proper regard to

general condition of the patient, lung examination and search for metastases will prevent such mistakes.

The pain due to hernia of the linea alba can readily be traced back to its cause. It is sufficient to carefully palpate the abdomen with this condition in mind and the small more or less pronounced hernial formations can easily be felt.

The so-called gastric crises of tabes dorsalis can present an entirely similar picture to that of gall stones without jaundice. The careful investigator will avoid such mistakes through a study of the nervous system. In any doubtful case of colics one should not neglect painstaking search for cardinal symptoms of tabes.

The greatest difficulty is experienced in the differentiation from diseases of the stomach and pancreas. There are three possibilities: cases in which the seat of the trouble is primarily in the stomach or pancreas while the symptoms simulate a disease of the gall bladder; or a real gall bladder trouble may be secondary to disease of one of these organs; or the stomach and the biliary system may be independently diseased at the same.

Under these conditions the study of the gastric chemistry should have a differential value. Gall bladder diseases do not cause sympathetic involvement of the gastric mucosa, as a rule, while the processes that lead to colicky pains of the stomach usually are associated with decided changes in the gastric chemistry. In ulcer, erosions and the most of the nervous gastralgias we find in the majority of the cases a continuing hyperacidity and hyperchlorhydria. In the interval between the gall bladder colics there is no change in gastric chemismus, but during an attack or soon after there may be a reflex increase of has actually subsided. (Note.—According to the most recent reports, less than half the cases of ulcer show a hyperacidity.—D. D. R.) A hyperhydria can be induced by reflex irritation from the intestine. I discovered this recently in a patient who had a marked hyperchlorhydria that ceased as soon as he was rid of a tape worm.

It is a fact that the nervous gastralgias involve the whole stomach, not limiting themselves to the pyloric neighborhood. The pains of ulcer come on after the injection of food, and very regularly, while the contrary is true for gall bladder conditions, and the pains are quite apt to start up in the night.

But this picture changes when cholecystitis leads to pericholecystitis and adhesions between the bladder and the stomach or duodenum. Then during peristaltic action of the intestines, pain is

\* L. Metzger (*Munch. Med. Woch.*, June 13, 1905) records an autopsy on a case of jaundice occurring at menstrual epochs, in which there was found a calculus wedged in common duct. He considers the congestion incident to menstruation completing the closure of the duct.—D. D. R.

caused by the stretching of the nerves and the origin of this pain is not easy to determine, particularly as there is a reflex increase of HCl secretion. Only due regard to the history of the case and the various other symptoms can here lead to a proper diagnosis. So it happens that one man will make a diagnosis of cholecystitis and another of neurotic pain of the stomach and has an evident result with his therapy, but the later course of the disease and the operation show that there were in fact gall stones.

The entire absence of HCl secretion is indeed of importance. This always shows a serious trouble of the mucous membrane, and in doubtful cases points to a primary disease of the stomach.

The distension of the stomach with air can be useful in diagnosis, in that an incontinence of the stomach speaks for an insufficiency of the pylorus and it must then be determined whether this is primary or secondary.

The vomiting associated with colics is also important. Although in stomach diseases the vomiting of bile may be found and with insufficiency of the pylorus a mixture of the intestinal contents be present, still there will be greater quantities if the cystic duct is blocked and the bile lacking a storage place flows into the empty duodenum. Undoubtedly as Glaser has shown there is a reflex connection between the stomach and the biliary system. So in contraction of the gall bladder about a stone, there are also contractions of the stomach. It appears, moreover, that the stomach is more sensitive than the gall bladder. We very frequently find pains and cramps in the stomach and only later in the gall bladder region. Indeed it happens that the patient spontaneously complains of pains in the epigastrium which is not tender to pressure, while pressure in the gall bladder region is painful.

Finally, we must not forget the microscopic study of the stomach contents. *Sarcinæ*, yeast cells and long bacilli prove in a way that at the time of the examination, at any rate, there is a disturbance of the stomach, while it may remain a question whether it is primary or secondary.

Our diagnostic armament is entirely inadequate in most cases of colic due to an acute or chronic disease of the pancreas and stones in this organ. Here there can be a symptom complex that in no way differs from that of cholelithiasis—cramps in the right epigastrium, tender swelling, jaundice (according to Fitz in 25 per cent), irregular fever and stomach disturbances (vomiting, diarrhea, belching, nausea and loss of flesh). The acute suppurative or the hemorrhagic form of pan-

creatitis is very easily confused with gall stones and the latter is very frequently the cause of the former. For the common duct passes in a groove in the head of the pancreas or even imbedded its substance; it joins with the duct of Wirsung and forms with it a narrow common duct, the Diverticulum of Vater. The mouth of this in the duodenum as Opie has recently again called attention to, is so narrow that even small concretions (3mm) are caught and the hepatic and pancreatic ducts both blocked. Fuchs was able to collect 23 cases from the literature in which cholelithiasis was combined with hemorrhagic pancreatitis, 22 case where this had simulated a suppurative and necrotic pancreatitis. Riedel in 127 cases of gall stones found on three occasions an induration of the head of the pancreas, the result of interstitial pancreatitis, so that the hard tumor was taken to be a carcinoma.

In fact very unpleasant surprises are presented at operation or at autopsy. The demonstration of sugar in the urine, of fatty stools and pancreatic stones in the feces are all of value. The latter are recognized by their content of carbonate of lime and the absence of bilirubin and cholestrin (at least only in traces). But evidently such stones can develop within the intestine, while glycosuria and fatty stools are not exclusively connected with pancreatic disease. The diagnosis and differential diagnosis at best will only approach a limited degree of certainty.

2d. Jaundice can be produced in two ways: through mechanical closure of the biliary passages and through functional disturbances of the secretory activity of the liver parenchyma.

The mechanical obstructions are: 1 the stone obstructions, 2 the compression of the extra hepatic part of the hepatic duct, or the common duct, because of tumorous formations of the bladder, duodenum pancreas, stomach or through kinking, pressure from without on the greatly distended bladder and through glands, and so forth, and 3 the blocking of the duct by inflammatory swelling. This last must be present in those cases where the first-mentioned causes are not found and also where the stone remains in the bladder or the cystic duct, or where there is only a cholecystitis or cholangitis without stone formation.

We must, therefore, differentiate a lithogenous, a compression and an inflammatory icterus.

The inflammation of the bile ducts leading to icterus must always be an infectious process. This is very commonly the case not only where the stone is in the bladder or cystic duct or is not

found at all, but also according to the view of Ehret and Stolz, where the stone is in the hepatic or the common duct. If a stone, as is often the case, does not block the duct entirely, an inflammatory condition supervenes and fills up the gap. In this way is explained the fact that the jaundice varies, the stools are bile stained in spite of the continued jaundice, and lastly, not infrequently does it happen that in spite of operative removal of the stone the jaundice persists.

The varying course of such a colangitis explains why at times in a cholelithiasis we find a dilated gall bladder, again a normal bladder or a shrunken bladder. The great variety of the symptom complex is made intelligible if one but remembers that only the finer ducts may be affected or the larger ones; only a limited part of the liver or the entire organ. Those cases are also explained in which purulent fluid and no bile is found above an obturating stone.

But the inflammatory swelling is not always severe enough to close the lumen; in these cases the icterus finds its explanation in a functional disturbance of the liver cells. The bile passes into the blood instead of into the ducts. Pick is disposed to think that there is a nervous reflex icterus because of the rapid development of an icteric hue so soon after a colic has occurred. In animals after the closure of the common duct icterus does not come on for 24 hours, at most 2 to 3 days.

This functional icterus is only a hypothesis, having neither anatomical nor experimental proof. It is brought forward to account for the fact that in a series of cases there is a decided jaundice in which none of the mechanical causes can be demonstrated.

According to Riedel, an inflammatory jaundice appears in about 10 to 15 per cent. of all cases of jaundice. Of sixteen cases without stone or tumor, Merk counted 4 with jaundice.

Icterus, it seems, is one of the most variable symptoms, and in about 25 to 30 per cent. is either not found at all or varies in its demeanor. One finds all grades from a slight subicteric coloring of the conjunctivæ to the deep yellow skin discoloration. A very transient jaundice points to the passing of a stone. Compression icterus gradually but continuously increases its intensity and then remains the same. Lithogenous jaundice can come and go but compression jaundice when once established is permanent. In the latter and in the new growths there is the deepest coloration—the so-called black jaundice.

We know that icterus is not an essential part

of the picture of gall stone disease, but the time has not far gone when medical men doubted a diagnosis of gall stones, unless there was jaundice. This is the view still current among the laity. On the contrary, we must not forget that, strictly speaking, icterus is not usually brought about by gall bladder disease alone.

It is interesting to note after there has been an attack of colic there may be a bile-stained urine, containing urobilin, but no discoloration of the skin; again, there may be a suggestion of yellow tinge to the sclera but no bile in the urine. In this condition the blood serum will show some yellow discoloration.

3d. Tumors of the gall bladder are not one of the regular occurrences; they really fail about as often as they are present, owing to the fact that a considerable enlargement can lie concealed under the edge of the liver. Merk found an enlargement of the gall bladder in 35 per cent. of the cases not having degeneration, Courvoisier in only 16 per cent. Merk found a tumor in general in only 11 per cent. of his cases. This corresponds with my findings. Palpable bladders are mostly those in a condition of hydrops; then they assume a considerable size. If they lie perpendicularly and deep in the abdomen they can cause diagnostic errors. It may be mistaken for a new growth of the mesentary cyst of the pancreas, movable kidney and hydronephrosis; this is so because there is no evident connection to the under surface of the liver.

A bladder filled with bile never assumes the size that it does in hydrops. Usually the bladder remains small and contracts about the stone. At first it may overlap the edge of the liver, but it later shrinks and becomes atrophic. According to Courvoisier-Ferrier, in cancerous growth the gall bladder is enlarged. This is, however, not without many exceptions, as palpable, therefore, dilated gall bladders are found in simple cholelithiasis. The differentiation of tumors under the edge of the liver may be easy, difficult or impossible. Swellings of the pylorus or duodenum are recognized by the fact that they can be held down by the palpating fingers during expiration, while tumors of the gall bladder are drawn back under the liver margin. The gastric and duodenal tumors, if not bound down by adhesions, change their position when the stomach is dilated with air.

An hypertrophied pylorus, the result of pylorospasm, is an unstable tumor, only apt to be felt at the time of contraction of the hypertrophied ring.



The tumors of the kidney can fall back into the diaphragmatic hollow and the intestine filled with air passages in front of the tumor.

Tumors of the pancreas lie deep, against the spinal column and are generally immovable.

Finally, the amnesical data, the colics, the sort of increase of the swelling and so forth come into consideration.

Indeed, all these points can leave us in the lurch and the diagnosis remain in doubt until the knife of the surgeon has laid open the abdomen.

Thus I have only recently observed the following case: A man, 44 years old, noticed ten days before, a rapid growing swelling in the liver region. He had not felt sick, had had no fever nor colics. Two years ago, jaundice for several days. There presented itself on the right side, near the umbilicus, a not very movable tumor, the size of the fist, that was separated from the edge of the liver by an area that gave a tympanetic note. In the urine, slight amount of bile—diagnosis, hydrops of the gall bladder. Operation showed a sero-purulent cholecystitis. The bladder was attached to the belly wall. In the bottom of the bladder was a solitary pyramidal shaped stone.

I might have availed myself in this case of an exploratory puncture, but I remark that I hold that diagnostic puncture of the abdomen is a very dangerous procedure unless one is in a position to operate immediately. This is true as well for solid tumors as for cysts. Through the opening, fluid can escape and infect the peritoneal cavity if the wall of the bladder is stiff and the hole remains open. Also, indeed, in solid tumors I have seen metastases form along the path of the puncture. In the great majority of cases the point in question is not whether to operate but much more to determine on what sort of a swelling we must operate. This is shown much more certainly and better by the exploratory incision.

#### COMPLICATIONS.

We have still to consider the great variety of conditions that can complicate the simple process of cholecystitis and the stone formation. Here we have the ulceration of the bladder wall and rupture of stones into neighboring hollow organs or into the peritoneal cavity. Fortunately, the rupture into the free abdominal cavity does not happen often as adhesions join the bladder to other organs in a great majority of cases before the stone is ready to pass through. If a rupture does take place into the free abdominal cavity

only the most rapid operation can be of service. Stones can break through into the stomach and be vomited; they can pass into the duodenum and going through the canal be passed in the stools, sometimes removed under great difficulties, or they leave an open communication between the bladder and stomach or intestine. In other cases they wedge themselves tightly in the intestine and bring on rapid intestinal obstruction with its results. As the rupture is usually without symptoms, cases of gall stone ileus have only the history of the case to give a clue as to the cause of the intestinal closure. It was my good fortune on two occasions to make such a diagnosis, the patients some time before the attack having taken a Carlsbad cure. Not only a blocking by a stone can cause such an illness but a dilated gall bladder in suppurative cholecystitis can cause an ileus of a paralytic nature, and the movable ball may simulate an invagination, as was observed in the cases of Lane and Bogdenik. Czerny briefly describes two cases of masked gall stone with necrosis of the bladder that presented the picture of intestinal stenosis. Finally, the stones may break through into the colon and cause a colon-bladder-stomach fistula, so that contents of the large intestine are vomited, as was seen in a case of Fleiner's.

In other cases rupture leads to cicatricial stricture of the duodenum, and the clinical course of this stimulates a carcinoma of the pylorus arising from an ulcer. A pericholecystic connective tissue tumor in a case of Riedel's simulated a tumor in substance, and was operated on for a tumor, but the operation already begun had to be suspended.

If the stone ruptures into the abdominal cavity there is always a sudden peritonitis, the severity and course of which depends on the infectiousness of the bile that finds entrance into the cavity. There have been cases observed that have been operated on immediately and have gotten well.

A further series of complications originate through the inflammatory adhesions attaching the bladder to the neighboring organs, particularly snaring and distortions that lead to obstructions of the passage.

Merk in his 104 cases found adhesions to the stomach (pylorus) 6 times, to the intestine 16 times, to the mesentery 27 times, or 49 times altogether, 38 per cent. Thus arise stomach dilatations, the cause of which remain hidden, compression of the common duct, the duodenum, the vena portæ and the cava with thrombosis and its resulting conditions.

Infectious cholangitis leads in the end to multiple liver abscesses, and this to subdiaphragmatic abscess and rupture through into the thoracic organs.

Infection does not happen as often in cancer as in concretions in the biliary ducts. It needs not to be more than mentioned that if infection takes place there will be fever, chills and septic evidences. It is impractical for me to here go into the other possibilities in the way of complications.

#### CANCER OF THE GALL BLADDER.

All authors are agreed that in about 95 per cent. of all cases of cancer of the gall bladder there are also stones, one or more. Along with this, we also have the fact that cancer is more frequent in women than men, just as in gall stones. I have never seen a cancer of the gall bladder in a man. According to Ferrier and Auvray this proportion is 40 to 10, according to Musser 75 to 23. As the cancer of the gall bladder, in contradistinction to that of the liver, is primary, so we must look for the cause in the bladder itself. It is doubtful that the irritation of the stones upon the wall of the bladder causes the cancerous degeneration. We do not know why a stone at one time causes ulceration and at another cancer formation. It may also be added that cancer of the bile ducts, according to the facts of Devic and Gallavardin, in 46 cases, showed gall stones only 10 times and in 6 cases of these there was no connection with the neoplasm; in 3 cases it was found above the stone. Cancer of the gall ducts is not found as frequently in men as in women (16 women to 30 men) while we know this is the opposite in the bladder. We see that the role of gall stones as an inciter of cancer is problematical. Speaking now of a cancer that limits itself to the bladder and the cystic duct, there will only be jaundice when the common duct is compressed by a particular formation of the bladder, by pericholecystic distortations and adhesions, and when, in addition, a stone is lodged in the common duct or when the new growth presses on the coledochus in some part of its course. Therefore cancers of the gall bladder remain latent for some time, only showing themselves through the carcinomatous intoxication or metastases leading to cachexia through obstruction of the ducts in the increasing growth or secondary formations in the glands on the portal vein, causing icterus ascites and œdema. But one can say that chronic, uniform icterus, in

about half the cases, is due to a new growth of a malignant nature. The few observations of benign tumors are not of much moment.

#### CANCER OF THE BILE DUCTS.

The cancer of the bile ducts comes into question only in the bile ducts that are outside of the liver. The common duct will also be included in cancer of the head of the pancreas. Of the cases cited by Devic and Gallavardin, out of 53 cases there was cancer of the common duct 22 times, of the hepatic 16 times and 15 times where the ducts joined.

According to Courvoisier's collection, in 19 cases of cancer of the common duct the growth was situated 9 times in the beginning part, 3 times in the middle and 7 times in the intestinal part.

The cancer is mostly of the ring or the knobby form. If it is on the cystic duct, there is usually a dilatation of the bladder; this does not happen if it is in the hepatic duct. Occasionally colic attacks, and very seldom vomiting and hæmatemesis are observed.

The spleen is usually enlarged. This happens to be not so in cancer of the head of the pancreas, and this is a good differential diagnostic point. But the diagnosis, from the other affections that come into consideration, is usually exceedingly difficult. Those affections are cancer of the head of the pancreas, hepatic cirrhosis, blocking by stones, obstructed pylorus, particularly from carcinoma, the formation of metases about the portal vein and compression of the bile ducts from swollen glands. All these affections lead to jaundice and to progressive cachexia, which in rare cases can advance with the greatest rapidity.

So I have seen a case of very bad jaundice in a man 26 years of age that within six weeks was fatal, the condition being a cancer of the duodenum, particularly the papilla of Vater, coming from a latent cancer of the pylorus.

The patient said he was well up to the onset of jaundice except for unimportant dyspeptic troubles. The autopsy showed metastases in the kidneys, heart, liver, and so forth.

Obstruction from a stone is most readily differentiated. The diagnosis from hypertrophic cirrhosis or from cancer of the neighboring organs is the most difficult. From hypertrophic cirrhosis one can scarcely separate cancer of the bile ducts. The cirrhosis of Laennec progresses without icterus; Hanot's cirrhosis corresponds with it in many points, enlargement of the liver and spleen,

chronic jaundice, gradual wasting; it is so near alike to cancer of the bile ducts that only the much longer course of the disease is of value in diagnosis. What one here can take to be in favor of one or the other condition is uncertain and the diagnosis, if it is made at all and is shown correct, is more a lucky chance than a matter of forceful diagnostic reasoning.

#### DIAGNOSTIC CONCLUSIONS.

It is easy to be seen from the foregoing survey the insuperable difficulties with which the diagnosis of these conditions occasionally has to do. It is very easy to recognize a typical case of gall stones where all the cardinal symptoms are present, but it may be exceedingly difficult to trace back the evidences of different conditions that have been discussed to their true cause.

#### THERAPY.

The therapy of the gall bladder and ducts has a double purpose. It must deal with the chronic condition and it must also deal with the acute exacerbations, particularly the attacks of colic and the formation of new stones. I will not, indeed, enter upon this broad field, but only discuss the question, when should we, as internists, recommend operative interference to our patients. For I hold, as a premise, that the internal treatment of gall bladder conditions is a very uncertain thing. For while it appears that a number of diatetic and gymnastic procedures, as well as a list of medical remedies, such as the springs of Carlsbad, Vichy, Neuenahr, Mergentheim, lavage of the stomach with hot water or silver nitrate solution (Ehrlich), the oil cure, salicylic acid and its salts, podophyllum, euonymin, potassium iodide, sodium cholate, belladonna in extract or infusion and others—while all these have under certain circumstances shown a result, we must, on the other hand, realize that we cannot be certain in such cases, whether such a result has really taken place. What the particular influence of a Carlsbad cure is upon gall stone troubles is stated by the head doctor of the general hospitals in Carlsbad, Dr. Fink, from his experience with 403 cases with 375 later reports: "By far the larger number of the patients were entirely well after the Carlsbad treatment. In a smaller number there were less frequent and milder attacks and in a slight number these were attacks of just as great severity. Thirty-eight patients came to operation. Of the cases not operated upon only two died as a result of their trouble." A preventative Carlsbad cure then recommends

itself, for the reason that after it a smaller number come to operation. These facts may conform to the experiences of physicians who have had the opportunity of seeing such patients after they have taken the cure; but this cannot deny the fact that a number of the patients are not cured, or in other words that the real cure is uncertain. A favorable result cannot be taken as a cure of the disease, but only as a conviction that the disease has become latent.

#### SURGICAL TREATMENT.

We will only prescribe an internal treatment for those patients affected with diseases of the biliary passages and in particular with cholelithiasis, where the condition is such that a failure of the treatment can cause no direct harm to the affected individual. Strictly speaking, we must then operate on all patients, for only in this way have we any certainty as to the exact kind of disease present, and only so can we establish a definite cure. The acute inflammation and the attack may pass over, indeed, a stone pass into the intestine and cure apparently result, but no one can positively assure us that no later attack will occur with severe, even fatal complications. This standpoint is, indeed, taken by all surgeons, and the resultant practice is viewed as the sought-for ideal. The condition is likened to appendicitis, and it is recommended to operate on every case of cholecystitis and cholelithiasis as in appendicitis. Just as we have convinced ourselves that such an extreme point for appendicitis is not supportable so it is in regard to the diseases of the gall bladder and bile ducts. Indeed, the removal of the gall bladder and the opening up of the biliary passages makes a much more serious encroachment on the bodily economy than in appendicitis.

We hold, and in this regard all clinicians are agreed, that where attacks of colics are successful, and where the passage of small stones has taken place, the indication is not to operate. In regard to the attacks without result, the opinions are probably divided, some demand the quickest possible operation and others declare themselves in favor of delay.

Opinions are also divided concerning the right procedure in acute and chronic cholecystitis. Kehr, certainly a keen surgeon, avoids operation in the presence of inflammatory processes in the bladder, with or without icterus, Naunyn recommends it for the reason that we have to do with an infectious disease. There can be no doubt

that we should operate very quickly on an exceedingly acute cholecystitis, with serious local symptoms, high fever and a much swollen spleen, for here there is the menace of a peritonitis and a general septic infection. Unfortunately, an early operation may, indeed, be too late. In a case which I saw with the father of gall bladder surgery, the late Langenbuch, we found that not only was there a suppurative cholecystitis and a stone in the common duct but also a suppurative cholangitis extending up as far as the smallest biliary ducts; death resulted a few days after operation.

It need hardly be mentioned that one should relieve by the knife the complications caused by adhesions where possible, and that a compression icterus is ripe for operation as soon as it has lasted a long time. The only question is in what does a "long time" consist. Koerte estimates it at five weeks, others place the termination further off.

I myself have the following viewpoint:

1. During the acute attack of inflammation and the colic attack I give the usual antiphlogistic and anodyne remedies. Here allow me to particularly extol gastric lavage with hot water or even the drinking of large amounts of hot water. After the attack a cholagogue, whether the attack was successful or not. I prefer the bile salts, sodium oleate, sodium salicylate and oil enemas, Carlsbad or Neunahrer waters, daily lavage of the stomach with alkaline or nitrate of silver solutions, and the mild vegetable cathartics, especially podophyllin and euonymin.

2. In more severe infections and the exceedingly acute cholecystitis an immediate operation.

3. If there are successful attacks with short respite, the internal treatment suffices for here there is evidently a new formation of stones that can pass the ducts: the bile, after the attack, has free passage, and the infection subsides. If a second and third unsuccessful attack happens, I advise operation. If there is ground for the supposition that the stone still lies in the neck of the bladder or in the cystic duct, then I recommend operation, but I grant the wish of a patient afraid of the knife, if he prefers to again trust to the lottery of internal treatment.

4. In chronic obstruction or compression jaundice I regulate my actions according to individual conditions. In very certain diagnosis of a compression icterus, no matter what its nature, an operation as early as possible is indicated. There are, indeed, cases of cancer of the common duct operated upon with attending good fortune.

Where one has to do with an extension of a new growth causing compression, for instance proceeding from the stomach or a pancreatic cancer with involvement of the common duct where it is included in its substance, in these conditions one must be content with a cyst-enteroanastomosis.

On the other hand, according to my experience, if the diagnosis of obturating stone is certain where we have to do with strong men who can take care of themselves and have no bodily exertion, one may wait longer than five weeks (Koerte). I have seen such icterus clear up even after months. It may be theoretically proper to operate immediately in these cases. This is so for the complications that are induced by pericholecystic processes. The peril of the operation in and of itself should not restrain one. According to the recent statistics of Kehr, this is only 4 per cent. But whoever, as an unprejudiced onlooker has seen as many operations as I have, knows that in the course of an operation there are so many incidents which threaten life, and so many annoyances and long delays of wound closure can result, that wherever possible one certainly exempts the patient from these vicissitudes. Indeed, the annoyances that come from the formation of cicatrices after operation are not to be underestimated. Finally, an unnoticed stone can be left behind, or it happens in the operation that all stones cannot be successfully removed. Indeed, it should not be forgotten that in old jaundice the parenchymatous bleeding is the cause of considerable danger to the patient.

#### AFTER-TREATMENT.

If we now have had a successful attack of colic or have operated, it always remains to us to protect the patient from the formation of new stones. Riedel states that he has never seen an actual return after the operation. The so-called "recurrences" come from stones overlooked or necessarily left behind. This may be so, but I cannot see why the bile passages after an operation have lost their power to form new stones. As a matter of fact, Kehr, Homans, v. Hanseman, and Korte have observed the new formation of stones after operation. At any rate, recurrences are not absent when the stones are passed *vias naturales*, after unsuccessful attacks and after cholecystitis. For we know that the stagnation of the bile is the beginning of all troubles of the bile system, and so we must prevent the possibility. Here we are not to recommend so much the medicamentous treatment as the various diatetic, gymnastic and general hygienic rules.

## Brooklyn Medical Journal.

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### VENTILATION OF SUBWAYS.

The Manhattan Subway still remains unventilated except as it receives air at the stations and at a few other openings not intended primarily for this purpose.

While the greatest need for artificial ventilation occurs during the warm months of the year a need, nevertheless, exists at all other seasons.

The chief obstacle in the installation of a system of ventilation is not, as some would have us believe, the expense involved, so much as it is the difficulty of providing a system at once practical, efficient and healthful. The whole plan presents a problem almost new to engineering; that is, new in the sense that as yet we have no practical experience with the efficient ventilation of railroad tunnels or of subways. It is true that miners are sometimes supplied with air conveyed from the outer air through pipes, but such a system would probably be inadequate for the needs of a subway occupied by the ever-changing crowds of travelers.

The system which would supply a sufficient amount of air to be of actual service must be of a very large capacity. Furthermore, it must be so arranged that passengers shall not be exposed to a violent influx of large air currents or of street dust.

Thus the problem is not so simple as it would at first appear, though from the urgency of the need a system will ultimately become a fact. Its perfection may be a matter of gradual evolution. The sooner effort has taken actual form in beginning the installation of a system, if only an experimental one, the better.

### TESTS OF THE PURITY OF THE BROOKLYN WATER SUPPLY.

Analyses of the various sources of water supplied to this borough carried out by the Water Department, have given the public no news that would lead one to connect the present greatly increased number of typhoid fever cases with the water.

The *Brooklyn Daily Eagle* has recently had analyses made on its own account, and these examinations reveal sufficient cause in the water alone, barring the fact that no typhoid bacilli were found, for the large number of typhoid cases at present occurring. Excessive caution on the part of the Departments of Health and Water Supply, lest a knowledge of the condition of water become public, seems very short-sighted policy. It is, perhaps, the fear on the part of the municipal authorities that political capital might be made of this knowledge which deters the publication of the exact state of affairs, by these departments themselves. It seems scarcely credible that the authorities were not aware of the source of the large number of cases of typhoid now occurring, and a frank avowal, by the city departments concerned, should have served to hasten the remedying of the evil conditions as well as conducing to the safety of householders by cautioning them against the use of the public supply for drinking, except after boiling. The worst conditions of the supply prevails in the Bath Beach and adjoining sections, and since these draw their supply, in common with other regions of the city, from Ridgewood, it is regarded as receiving a large share of its impurities from local sources. The reports concerning other sections of the borough show conditions very similar to those which have been known to exist for years past.

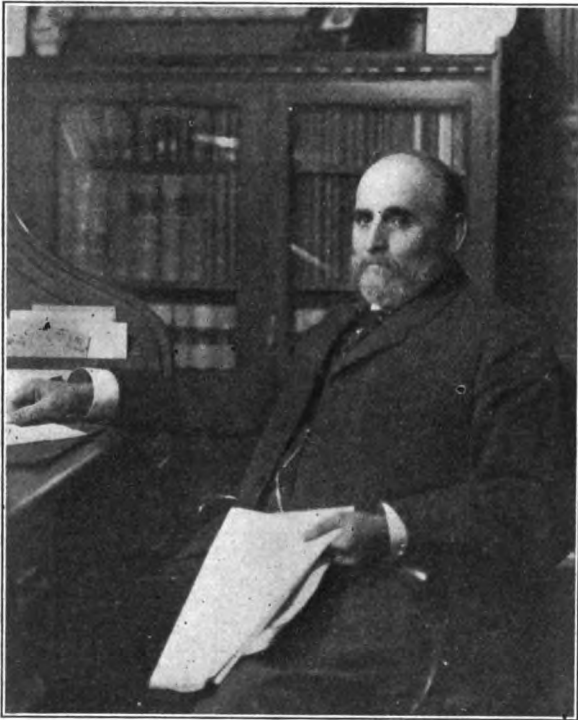
### OBITUARY.

SETH DICKINSON BOGGS, M.D.

Active in the practice of medicine until the summons came to stop. After returning from a sick call Dr. Boggs died at his home in this city August 10, 1905. He was born in Brooklyn, N. Y., January 9, 1852. His father was Thomas Boggs, of Onondaga, N. Y., and his mother, Jane Filler, of Red Bank, N. J.

Dr. Boggs united himself in marriage with Miss Annie W. Gifford, of Brooklyn, N. Y., on June 4, 1890. The following children were born as the result of this union: Jean, Malcolm, Donald, and Marjorie Boggs.

The doctor's early education was received in the public schools, Onondaga Academy and Cornell University. His medical education was received at Bellevue Hospital Medical College, graduating M.D., in 1886. He became interne in Bellevue Hospital, and in 1887 began the practice of medicine in this city, where he remained



SETH DICKINSON BOGGS, M.D.

until his death. Dr. Boggs was a member of The Medical Society County of Kings, 1887-1905; The Brooklyn Medical Society, 1899-1900, and The N. Y. Physicians' Mutual Aid Association.

WILLIAM SCHROEDER, M.D.,  
Chairman of History Committee.

## MEDICAL NEWS.

EDITED BY CLARENCE REGINALD HYDE, M.D.

*It is earnestly hoped that all members of the profession possessing news concerning themselves or their friends, which would interest others, will communicate the same to the News Editor before the 9th of each month. Items for this department should be sent promptly to Clarence Reginald Hyde, M.D., 126 Joralemon Street.*

Dr. Walter B. Chase and family spent the summer at Jewett Heights in the Catskills.

Dr. G. Morgan Muren has removed to 38 Orange Street.

Dr. James MacEvitt has removed to 514 Ninth Street, corner Eighth Avenue.

Dr. William H. Shepard has removed to 415 Fifty-sixth Street, Bay Ridge.

Drs. C. B. and De Witt L. Parker announce their removal to 154 Clinton Street.

Dr. Henry A. Alderton has returned from his vacation and trip to the Pacific Coast and has resumed practice.

Dr. Stephen J. Keyes, L. I. C. H., 1894, died at his residence September 14th.

Dr. Bernhard Stern, of 2604 Avenue F, Flatbush, with his family sailed in August for a two-months' sojourn in Europe.

Dr. H. W. Lincoln, of 113 Hancock Street, has been appointed consulting physician, department of gastro-intestinal diseases, to the Bushwick and East Brooklyn Dispensary.

After October 1st Dr. Henry P. de Forest's Manhattan address will be Hotel Somerset, 150 West 47th Street. Dr. de Forest is at his Brooklyn office, 369 Hancock Street, Monday, Wednesday and Friday afternoons.

Mr. and Mrs. William Henderson Ely, of Hoosick Falls, N. Y., announce the marriage of their daughter, Katherine Royce, to Dr. Frank L. Cochrane, of 704 Sterling Place, Brooklyn. Dr. George L. Buist, of Brooklyn, was best man.

Drs. W. F. Gardiner, R. C. Williams and Lewis G. Langstaff left Brooklyn, September 1st, to join a party at Toronto, Canada, for a two-weeks' hunting and fishing trip to Lake Nipissing, Ontario.

The International Sanitary Convention of American Republics will be held in Washington, October 9th. The meeting this year is of prime importance on account of the epidemic of yellow fever in the South.

Dr. S. Suzuki, chief surgeon of the Japanese Navy and the companion of Admiral Togo throughout the Russian war, has arrived in this country and will represent the Japanese medical service at the convention of the Physicians and Surgeons soon to assemble in Detroit, Michigan. It is expected that Dr. Suzuki will have many interesting tales to tell of the surgeon's work on board ship during the numerous sea fights in which the Japanese navy participated.

Doctors Ho Kan Yuen, Ying Young Tsui, and Wang Pang Chung, representing in order the navy, army and South China army, have arrived in this country to attend the conference of Military Surgeons at Detroit. All of them are men of eminence in their profession, having been educated in England and the United States.

The Medical College of Indiana has just been made the medical department of Purdue University, with the title of *Indiana Medical College*, The School of Medicine of Purdue University.

Miss Honoria Acosta, of the Philippines, graduated recently from the Drexel Institute, was one of the first of the group of girls brought to this country for education. She is to enter a Philadelphia medical college this fall.

Under a decision rendered by the Commissioner of Internal Revenue every druggist who after December 1 of this year may sell certain so-called patent medicines having whisky or other distilled spirits as the chief ingredient will be obliged to pay a special tax to the government as a liquor dealer. The manufacturers of these medicines will be required to pay the special tax imposed up rectifiers and liquor dealers. In order to relieve druggists and other dealers from loss, the ruling will not go into effect until December 1, next.

The Fifteenth Annual Meeting of the New York and New England Association of Railway Surgeons will be held at the Academy of Medicine, New York City, November 17-18, 1905, under the presidency of Dr. G. P. Conn, of Concord, N. H. One-half day of the meeting will be devoted to a symposium on "Injuries to the Head and Spine." A cordial invitation is extended to the profession. Dr. Geo. Chaffee, 338 47th Street, Brooklyn is Secretary.

Dr. J. B. Jones, who has been connected with the Brooklyn City Dispensary for over fifty years, has recently retired from its active management, and Dr. Robert Kingman has been appointed medical director and registrar. The board of directors are interesting themselves personally in building up the work, and intend to provide new and modern equipment for the carrying on of special clinical work by the medical staff. The officers of the board are at present Mr. Clement Lockitt, president; Dr. Robert P. Newman, vice-president; Mr. D. Irving Mead, secretary and counsel, and Mr. Leonard G. Bond, treasurer.

Very many of the well-known physicians of this city, both of the present and past generation, have been members of the medical staff of the Brooklyn City Dispensary. At present positions are held by the following: Dr. Henry and Dr. Hirseman, surgical; Dr. Swalm, diseases of the chest; Dr. Child, genito-urinary and skin diseases; Dr. Trumpp and Dr. Love, general medicine; Dr. Brown, Dr. Tarbox and Dr. Luther, diseases of children and gynecology. Three new

clinics are to be established in the near future—eye, and ear, throat and nose, and dental, for which applications have been received and new supplies provided.

The Brooklyn City Dispensary at 11 Tillary Street is the oldest dispensary in the city of Brooklyn, having been organized in the year 1846 and incorporated in 1850. The work was at first carried on in a room set apart in the City Hall. In 1854 the dispensary moved to Pineapple Street, where it remained until 1864, since which time it has been located at 11 Tillary Street.

The following candidates for appointment as first lieutenants and assistant surgeons in the medical department of the army have passed the preliminary examination and have been made contract surgeons, preparatory to pursuing a course of instruction at the Army Medical School at Washington: Albert G. Love, Charles E. Freeman, Henry J. Nichols, John R. Hicks, Albert H. Walton, Matthew Reasoner, Oswald F. Henning, Lawrence P. Desmond, Harold W. Jones, Henry B. McIntyre, Sidney L. Scott, Omar W. Pinkerton, Lucius F. Hopwood, Thomas Francis Duligg, Louis H. Hanson, Howard A. Reed, Hermon E. Hasseltine and Ferdinand Schmitter. In accordance with the system which has been in vogue for over a year, these candidates will undergo a course of instruction for eight months at the medical school, commencing October 2d. At the close of the term at the medical school, all candidates will be subjected to a rigid physical examination, and those found physically qualified will be admitted to the final or qualifying examination for admission to the medical corps. The candidates standing highest in this examination, who attain a general average of 80 per cent. and over will be selected for commission in the order of their standing to fill existing vacancies in the medical department. The contracts of candidates who fail to qualify will be revoked. The results of this system, which was instituted in July, 1904, have been most gratifying.

Mrs. Jessie Torrance Gilligan, née MacNeill, wife of Dr. Alexander Gilligan, died at her home, 952 Bedford Avenue, on September 24. Mrs. Gilligan was born at Bonnybridge, Stirlingshire, Scotland, in 1875, but came to this country in her youth and joined the Brooklyn Hospital Training School for Nurses graduating with the class of 1896. From that time she was actively engaged in her profession until her marriage in



April of last year. Last July she was compelled to undergo an operation for cancer which gave only temporary relief, and after two months of suffering, alleviated by all the resources of medical science, the end came as a relief. Mrs. Gilligan was a lady of attractive personality, engaging manners and sunny, unselfish disposition, and her death will be regretted long by a large circle of friends not only in the nursing and medical professions but among the laity. She remained an active member of the Brooklyn Hospital Training School for Nurses Alumnae Association until her death.

Dr. Arthur R. Reynolds, late Commissioner of Health of the City of Chicago, has accepted the Medical Directorate of the French Lick Springs Hotel Company, at French Lick, Indiana.

The Fifth Annual Conference of Sanitary Officers of the State of New York was held at Albany, October 4 and 5.

Dr. Bryant, the President of the Medical Society of the State of New York, has appointed the following Committee to have charge of the programme of the Annual Meeting at Albany, January 30, 31, and February 1: Drs. L. H. Newman, A. T. Bristow and H. Hugh William.

The Eighteenth Annual Meeting of the American Association of Obstetricians and Gynecologists was held at Hotel Astor, Manhattan, N. Y. City, September 19th, 20th and 21st. The local committee of arrangements consisted of Drs. Robert T. Morris, Samuel W. Bandler, and James N. West.

Among those who contributed papers were Drs. Charles A. L. Reed, of Cincinnati; J. J. Murphy, of Chicago; Joseph Price, of Philadelphia; Lewis S. McMurtry, of Louisville; J. B. Deaver, Philadelphia; Edward J. Ill, Newark; Walter B. Chase, Brooklyn; J. H. Carstens, Detroit; X. O. Werden, Pittsburg, and Dr. Robert T. Morris, of New York. Dr. Werden's paper was a proper recognition of the work of our own Dr. John Byrne.

During the meeting Dr. Joseph Price, of Philadelphia, took the clinic of Dr. Chase at the Bethany Deaconesses' Hospital, of this city, and demonstrated his technic in dealing with large uterine fibroids, complicated with extensive adhesions.

On Wednesday evening the annual banquet was held at the Hotel Astor. Among the speakers were Dr. Robert T. Morris, toastmaster; Surgeon-General Suzuki, of the Imperial Japanese

Navy, who spoke of the efficacy of aseptic treatment of wounds and the remarkably low mortality following it; Major L. L. Seaman, M.D., Dr. L. S. McMurtry, whose topic was "The American Medical Association," and Dr. Brooks H. Wells, who told of the doctor's vacation. Dr. John Young Brown, of St. Louis, was elected president.

The *Bulletin* of the American Academy of Medicine for August, 1905, contains a paper entitled "State Licensure for the Practice of Medicine, 1904," by Charles McIntire, A.M., M.D., Secretary of the Academy. A foot-note states that it is a "Report prepared to present to the American Academy of Medicine at its meeting in Chicago, November 9 and 10, 1905." This report is a summary of the results of examinations for license by the various State Boards of Examination during 1904. Some of these figures might be interesting to the JOURNAL's readers. A few of the leading colleges have been selected. The percentage is that of those who passed:

|   | Percentage. |
|---|-------------|
| University of Chicago (Rush Medical College) .....            | 93.8        |
| Kentucky University, Louisville .....                         | 76.9        |
| University of Louisville, Louisville .....                    | 58.7        |
| Bowdoin (Medical School of Maine) .....                       | 84.4        |
| Baltimore Medical College, Baltimore .....                    | 72.0        |
| College of Physicians and Surgeons, Baltimore .....           | 74.7        |
| Johns Hopkins, Baltimore .....                                | 98.3        |
| Harvard .....   | 98.7        |
| Tufts College, Boston .....                                   | 85.5        |
| University of Michigan .....                                  | 90.5        |
| Dartmouth, Hanover .....                                      | 85.7        |
| Columbia (College of Physicians and Surgeons, New York) ..... | 95.8        |
| Cornell, New York .....                                       | 97.0        |
| Long Island College Hospital, New York ..                     | 98.0        |
| Syracuse University .....                                     | 100.0       |
| Union, Albany Medical College .....                           | 90.0        |
| University and Bellevue, New York .....                       | 91.2        |
| University of Buffalo .....                                   | 92.0        |
| Jefferson Medical College, Philadelphia ...                   | 88.8        |
| Medico-Chirurgical College, Philadelphia ..                   | 80.2        |
| University of Pennsylvania, Philadelphia ..                   | 94.6        |
| University of Vermont, Burlington .....                       | 82.9        |
| University of Virginia .....                                  | 91.0        |

It will be seen that Harvard, Syracuse, Long Island College Hospital and Johns Hopkins enjoy the distinction of being the four leading colleges.

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## ORIGINAL ARTICLES.

### DIAGNOSIS AND MEDICAL TREATMENT OF DISEASES OF THE GALL-BLADDER, INCLUDING CHOLELITHIASIS.

BY GLENTWORTH R. BUTLER, M.D.

There are two diseases of the gall-bladder proper which claim attention: carcinoma of the gall-bladder and cholecystitis.

*Carcinoma of the gall-bladder* is much more common (3 or 4 to 1) in women than in men, and occurs most frequently between the ages of 50 and 60 years. It is predisposed to by the presence of gall-stones which are found in from 90 to 95 per cent. of cases of gall-bladder carcinoma. In more than one-half of the cases secondary growths appear in the liver; the pancreas is frequently involved; adhesions may form whereby the gall-bladder becomes adherent to the colon, small intestines, stomach, or abdominal wall; or a suppurative cholecystitis may ensue.

Jaundice of the chronic obstructive type is present in about 70 per cent. of the cases. It is absent if the new growth is confined strictly to the bladder, but when it involves the common duct, or when the neighboring glands are enlarged, the conditions requisite for hindering the flow of bile into the intestine are fulfilled and icterus appears. It is persistent because the conditions are permanent.

Pain, more or less severe, occurs in a majority of the cases. It is at first merely a sensation of heaviness and discomfort in the right hypochondrium, later becoming a dull pain. There may be paroxysmal attacks, not to be distinguished from gall-stone colic. Occasionally there may be vomiting, meteorism, constipation (usually), and fever. Ascites occurs in 20 to 25 per cent. of the cases. While it may be due to pressure on the portal vein, it is most commonly caused by a secondary carcinomatous peritonitis.

In two-thirds of the cases a tumor is found in the usual site of the gall-bladder, varying from the size of a walnut to that of the closed fist, or even larger. It is at first smooth, even, and ovoid; later it becomes hard, irregular, and

usually tender. It extends downward and towards the umbilicus, and, unless it has contracted adhesions, moves with respiration. Wasting and cachexia gradually become manifest; and when grave jaundice and cholæmia supervene, hæmatemesis, melæna, and epistaxis may occur. The average duration of the disease is about six months.

The cardinal symptoms are a hard, uneven, steadily growing tumor in the site of the gall-bladder, in a woman about 55 years of age; loss of flesh and strength; permanent jaundice, and finally, perhaps, the discovery of secondary growths in the liver, or about the clavicles.

The medical treatment is merely palliative.

*Acute cholecystitis* is due to infection by various micro-organisms, and, while usually associated with the presence of gall-stones, it occurs not infrequently in their absence. It may, therefore, be calculous or non-calculous.

Like appendicitis the inflammation varies from mild to severe—catarrhal, suppurative, and phlegmonous or gangrenous. When the serous coat is inflamed it constitutes a pericholecystitis. It is very probable that the milder degrees of inflammation are much more common than is generally recognized. The severer forms may terminate in gangrene, perforation, localized peritonitis and abscess, or a general peritonitis.

In the mildest cases there may be little active pain, and very slight or no fever, but there is often chilliness, with a moderate temperature, which, however, rapidly subsides. The characteristic finding is a spot of localized tenderness, comparable to that of a mild appendicitis and often elicited only by deep pressure, over the seat of the gall-bladder.

In a case of average severity the earliest symptoms are pain and tenderness in the right hypochondrium. The pain is commonly paroxysmal, resembling that of gall-stone colic, but is usually not quite so intense, and may radiate downward into the right iliac region. The tenderness is well diffused, but is most noticeable at the junction of the upper two-thirds and the lower one-third of a line drawn from the right ninth rib to the umbilicus (Mayo Robson). In a certain

proportion of cases, depending on the amount of obstruction to the cystic duct, the gall-bladder becomes distended and palpable. Unless fixed by old adhesions, it is movable and can be swung from side to side in a semi-circle.

Jaundice is by no means a necessary symptom, and when present is suggestive of the presence of gall-stones, or an extension of the inflammation to the common duct.

In the severest cases there are, in addition to violent pain, chills followed by fever, nausea, vomiting and collapse. The abdomen becomes distended and its walls rigid. There may be obstinate constipation, or even an apparently complete intestinal obstruction, neither feces nor flatus passing.

The cardinal symptoms are the finding of a distended gall-bladder, with a previous history of hepatic colic and jaundice; or of a recent typhoid fever, pneumonia, or influenza. In the absence of such symptoms and history, the diagnosis may be difficult or impossible, and the question cannot be settled without an exploratory laparotomy.

The most common difficulty in diagnosis is to distinguish between appendicitis and cholecystitis; indeed, the two may coexist. The usual mistake is to consider a cholecystitis as an inflamed appendix, especially in those instances when, as may happen, the gall-bladder is so elongated as to reach down into the right iliac fossa, or is carried down into the appendical region by a tongue-shaped projection from the right lobe of the liver, the so-called Riedel's lobe. On the other hand when, as also may occur, the appendix occupies an abnormal position, running upward toward the liver, the pain, tenderness, and swelling due to an appendicitis may be in the right hypochondriac, and not in the right iliac, region.

Medical measures are efficacious only in the milder cases. When the symptoms are at all severe the advice of the surgeon should be sought.

The medical treatment comprises rest in bed until the tender point disappears, light and easily digestible diet, and hot fomentations and moderate counter-irritation over the region of the gall-bladder. Mild laxatives, such as Carlsbad Sprudel or other salines, should be given. Moderate doses of sodium, or other, salicylate, will be useful in promoting the more rapid flow of bile, thus helping to prevent the spread of the inflammation to the bile-ducts. Morphine should be used unwillingly and with very sparing hand in order, as in appendicitis, not to produce a deceptive masking of symptoms.

*Cholelithiasis* occurs mainly in women (75 per

cent.), especially in those who have borne children. The patient is usually between 40 and 60, rarely under 25, years of age. Predisposing causes are excessive eating, sedentary occupation, constipation, tight lacing, enteroptosis, and nephroptosis. The immediate cause is a mild catarrhal inflammation of the gall-bladder or the bile-ducts. When the mucous membrane of the gall-bladder is thus inflamed there is an excessive formation of cholesterin by the mucous glands and cells; when the bile-ducts are similarly affected, their mucous membrane secretes an exudate which precipitates bilirubin-calcium calculi. The two micro-organisms which are mainly responsible for the production of the inflammation are the *B. coli* and the *B. typhosus*.

Gall-stones may, and usually do, lie latent in the gall-bladder for an indefinite time. If, however, the concretions endeavor, or succeed in so doing, to enter or traverse the cystic or common duct, the well-known symptoms of hepatic colic are manifested, and if the concretion becomes permanently impacted in either duct the evidences of chronic obstruction appear. Subsequently ulceration and perforation may occur with the formation of a biliary fistula, or the stone may ulcerate through into the intestine and, if of sufficient size, cause obstruction of the intestines.

The cardinal symptoms of gall-stones are a typical attack of hepatic colic, followed by jaundice, even though slight and transient. If there is a history of previous attacks, or if others follow, the diagnosis is practically certain. The finding of stones in the stools is pathognomonic.

Jaundice, however, is present in but one-half of the cases, partly because obstruction of the cystic duct does not, *per se*, give rise to it; and the size or shape of the stone may be such that when it lies in the common duct the bile is permitted to trickle past it, *i. e.*, the obstruction is incomplete. Moreover, the symptoms of an acute non-calculous cholecystitis may so closely resemble those of a non-icteric hepatic colic that nothing but operation will demonstrate the absence of calculi. Occasionally also, moderate attacks of colic may be due to the passage of inspissated bile, or precipitated cholesterin and bile-pigments.

Other conditions which may require consideration in the differential diagnosis, but of which time will not permit a detailed discussion, are appendicitis, floating kidney, hyperchlorhydria and gastralgia, gastric or duodenal ulcers, renal colic, nervous hepatic colic, and mucous colic.

When the calculus is impacted in the cystic duct drosy of the gall-bladder may ensue; or an acute

calculous cholecystitis develop. When the arrest occurs here jaundice may be present in 10 to 15 per cent. of cases (Riedel), and, if found, is due to the extension of spasm or catarrhal inflammation to the common duct.

The permanent lodgment of a calculus in the common duct, usually toward its lower end, gives rise to symptoms which are largely due to the cholangitis excited by its presence. According to Naunyn, the distinctive signs of this condition are a chronic jaundice of varying intensity, with constant or intermittent presence of bile in the feces, fever, enlargement of spleen, absent or slight enlargement of the liver, and no enlargement or swelling of the gall-bladder. The absence of a distended gall-bladder in jaundice due to obstruction of the common duct by concretions, while it is present in jaundice due to obstruction from new growths or outside pressure from other causes (Courvoisier's law), is due to the fact that the bladder becomes small, thickened, and contracted as a result of former attacks of cholecystitis excited by the presence in it of the stones. While this law holds good in the majority of cases, there is a notable percentage of exceptions.

When the calculus lies in the lower end of the common duct, which is often much dilated, and is of such a size and shape as to be movable or "floating" and exert a ball-valve action, a group of symptoms will arise, known as the intermittent hepatic fever of Charcot. Osler has emphasized its importance. There will be paroxysms of hepatic pain, with chill, fever ( $103^{\circ}$ - $105^{\circ}$ ), and sweating. These attacks, which may be very severe, are separated by an apyrexial interval and closely resemble a malarial ague. Jaundice, which is usually present, may be marked and persistent, or varying and intermittent, according to the degree of obstruction, and, as a rule, increases after each paroxysm. There may be nausea and vomiting, the liver and gall-bladder are slightly or not at all enlarged, bile may be found in the stools from time to time, and there is no ascites. There is a leucocytosis during the attacks. During the intervals the health may be good. They may recur in a series separated by weeks or months. The seizures are significant of repeated bacterial infections. A suppurative cholangitis or hepatitis may be a sequel. These attacks are commonly diagnosed as malaria, but a knowledge of their possible occurrence, and an examination of the blood for the plasmodium will prevent this error.

A calculus in the ampulla of Vater may mechanically obstruct Wirsung's duct, and thereby hinder the outflow of pancreatic juice, unless the acces-

sory duct of Santorini is able to carry the juice into the duodenum. As a result a chronic interstitial pancreatitis occurs, which is not attended by glycosuria and diabetes as the islands of Langerhans are not involved in the process. In rare instances a hemorrhagic pancreatitis may result from the passage of bile into the pancreatic duct. This is due to the presence of a calculus in the ampulla close to the biliary papula, sufficiently large to prevent the flow of bile into the duodenum, but not large enough to close the pancreatic duct, whereby the bile passes into the latter.

Many of the pains which are common in gall-stone disease and which vary considerably in severity are due to pericholecystic adhesions to various organs, the stomach, duodenum and colon especially.

The following semi-axioms are useful to remember:

1. Colicky pain, of the hepatic type and distribution, usually signifies the presence of a foreign body, generally a calculus, in the ducts.

2. Tenderness of the gall-bladder signifies an infective inflammation of the gall-bladder, whether due to the presence of a calculus or not, and in mild cases may be the only distinguishing sign. The best method of demonstrating such tenderness is that of Murphy, who says, "The most characteristic and constant sign of gall-bladder hypersensitiveness is the inability of the patient to take a full, deep inspiration when the physician's fingers are hooked up deep beneath the right costal arch below the hepatic margin. The diaphragm forces the liver down until the sensitive gall-bladder reaches the examining fingers, when the inspiration suddenly ceases as though it had been shut off."

3. Gall-bladder tenderness is usually absent in bile-duct obstruction due to pressure by new growths, scar tissue, torsion, or flexion.

4. A large gall-bladder, with jaundice, usually indicates obstruction by neoplasms or scar contraction; not by gall-stones.

5. Chronic jaundice, without remissions or intermissions, is almost invariably due to malignant obstructive disease, and not to calculus.

6. Jaundice, preceded by colicky pain, is practically always due to gall-stones; without pain, to new growths, outside pressure, or infective inflammation.

The medical treatment of cholelithiasis consists principally in the employment of such measures as may tend to relieve the infective inflammations which are associated with the presence of concretions; and to diminish, so far as may be, the liability to future infection. The control of pain by anodynes, hot fomentations and counter-irritants is taken for granted. Rest in bed is essential until tenderness has completely subsided (Fuhs). Attempts to dissolve calculi, *in situ*, are, to say the least, of very little efficacy.

As stagnation of bile in the gall-bladder predisposes to infection, the patient should be required to take as much active exercise as strength and *pain or sensitiveness* will permit. There are few out-door sports, especially those which favor deep breathing and full movements of the diaphragm, which are not useful in this condition. Tight lacing in women, tight belts in men must be tabooed.

The diet should comprise digestible food, simply prepared. An excess of starches, sweets and fats is to be avoided. Nitrogenous foods may be allowed with freedom. It is probably very desirable to take hot water on rising and at bedtime.

To prevent and to remove the milder (catarrhal) inflammations of the bile passages, in addition to careful diet, slow eating, and the elimination of all causes which might initiate an acute or chronic gastro-duodenitis, certain medicinal measures are desirable. Mild laxatives are very serviceable, such as the Carlsbad water or salts, and sodium phosphate; or, if something more active seems desirable, Epsom or Rochelle salts or one of the numerous laxative saline waters. For those who can afford it, a "cure" at Carlsbad or some similar watering place, should be advised.

If jaundice is present benefit will be derived from daily or bi-daily enemata of salt solution, hot or cold, or alternating. A course of sodium salicylate or aspirin, or ammonium chloride, or nitro-hydrochloric acid, or sodium or ammonium benzoate, or ox-bile, all have their advocates. The use of oil, olive or cotton-seed, I believe, in spite of varying testimony, to be useful in some cases.

Finally, in regard to surgical interference. The physician can readily temporize for too long a time. I believe that active and well-marked symptoms, or a history of frequent recurrence of pain and tenderness, should be the signal for a conference between the medicine man and the hand-worker.

## SOME OBSERVATIONS ON THE ANEMIAS.\*

BY HENRY G. WEBSTER, M.D.

In taking up for consideration so broad a subject as the anemias I can hardly hope to more than briefly refer to the general features, while emphasizing one or two special points that have appealed to me as of especial interest. The subject, while often threshed over, forms so large and important a part of every practitioner's experience that it is of perennial interest and well repays frequent discussion.

It is customary to divide anemias into two classes that seem fairly well defined, both from the clinical manifestations and the blood findings—primary or essential or idiopathic, and secondary or symptomatic. Clinically, the secondary varieties are such as are readily traceable to some observable cause, whether hemorrhagic or toxic, or as happening in the course of some such wasting disease as tuberculosis or cancer where more than a single cause is probably at work. The primary group includes those presenting no discoverable cause. Pathologically there are certain fairly constant changes in the appearance and relation of the blood elements—erythrocytes, leucocytes and hemoglobin—that are said to be characteristic of the two groups.

Normal blood presents in adult males an average number of 5,000,000 red and 5,000 white cells with about 95 per cent of hemoglobin. The red discs are quite regular in their size and shape, being circular with depressed centers and about 7.5 microns in diameter; of an even greenish-yellow color and tending to run together in rouleaux. In women a slightly lower number of red cells is not abnormal. In estimating the physical properties of the blood it is well to take into consideration the size, shape and degree of color of the red cells as well as the viscosity, color and coagulation time of the blood as a whole. The elaborate coagulometer of Wright has made this a formidable procedure until the simple idea of allowing a large drop to coagulate on a glass slide and observing the time necessary for the formation of a firm coagulum was recommended by Milian. He finds a normal variation of from 2.5 to 5 minutes. An increased coagulation period is very suggestive when a suspicion of hemophilia exists.

One may expect to find in anemic blood changes in the absolute as well as relative pro-

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portions of the red cells and hemoglobin. The white cells are not usually included in anemic changes, though there may be leucopenia in profound anemia and absolute leucocytosis in splenic anemia. The proportion of polymorphonuclear, mononuclear and eosinophile leucocytes may be changed, but as such changes are most common in the leukemias they may not properly be discussed here. An increase in the eosinophiles is very suggestive of parasitic disease.

The normal ratio of red cells to hemoglobin obtained by dividing the percentages of the latter by that of the former, equals 1. This color index when higher than 1 is suggestive of the pernicious type, while in chlorosis it is reduced.

Of variations in the erythrocytes, we find changes in the color commensurate with the degree of hemoglobin loss, the appearance of highly refractive spots and figures due to the same reason, irregular outline or poikilocytosis, and sometimes nucleated red cells—erythroblasts. Erythrocytes much larger than the normal are spoken of as megalocytes and those much smaller as microcytes. The size of the erythroblasts is similarly indicated. In stained specimens a granular, or sometimes an irregularly shaded appearance, or a tendency to take on an unusual stain is spoken of as polychromasia or polychromatophilia. It is occasionally seen in high degrees of anemia, lead poisoning and some rarer conditions.

A word as to method. The determination of hemoglobin is easily and quickly made by either Dare's, Sahli's or Talquist's instruments. The first is expensive, but the readings are rapidly made and tally closely with the standard Fleischl method. The second, which is a radical modification of Gower's instrument, is cheap, rapid and accurate. It gives somewhat higher readings than the average. Talquist's scale gives readings within 10 per cent. of the other methods, and for office or bedside is convenient and sufficiently accurate. The Thoma-Zeiss apparatus for counting both red and white cells has not as yet been replaced by any more convenient method, though the Zappert-Ewing chamber is to be recommended. Blood smears made by drawing the edge of one glass slide along the surface of another give large well-spread films, and when stained by Wright's or some similar method are convenient for the detection of malarial parasites, examination of erythrocytes and differential counting of the leucocytes at one and the same time.

Turning now to the consideration of the essen-

tial or primary anemias we are told that they are characterized by a higher color index, the presence of nucleated red cells and a degree of blood disturbance not to be accounted for by any observable disease. Chlorosis contributes the bulk of such cases, though here it is the hemoglobin that is diminished out of proportion to the loss of erythrocytes. Erythroblasts are infrequent.

The clinical picture, while protean in some respects, furnishes a number of constant symptoms: Constipation, the green color that gives it its name, muscular weakness as indicated by palpitation and breathlessness, and evidences of starvation of the nervous system, such as syncope, fretfulness, headache, anorexia, wandering pains, etc. Most, if not all of these symptoms are equally suggestive of toxic processes. The blood picture presents a loss of hemoglobin which may fall as low as 20 per cent., a moderate diminution of the red cells to 3,500,000—seldom lower—the changes in the appearance and size of the erythrocytes already noted, and the occasional appearance of nucleated red cells, usually of the normoblastic type. The leucocytes average 6,000 with a tendency to increase of the lymphocytes.

Pernicious anemia presents clinically a peculiar lemon-yellow color of the skin, a degree of emaciation not at all commensurate with the gravity of the disease, a tendency to remissions, marked gastro-enteric disturbances, a low irregular fever, all of which symptoms are equally characteristic of septic absorption.

The blood findings include an excessive loss of red cells, the number falling below 1,000,000—590,625 in the case to be reported—hemoglobin reduced, but not in such degree, so that the color index remains high, great deformity of the red cells, the constant presence of nucleated erythrocytes of the megaloblastic type and a leucopenia with relative increase in the lymphocytes. Myelocytes are generally found in small numbers.

Splenic anemia, characterized essentially by enlargement of the spleen with anemia in which both hemoglobin and red cells are moderately reduced with a low color index as the rule and with normoblasts frequently present, is to be included under the primary anemias. The symptoms present in one case to be reported suggest the ravages of a toxic agent.

Secondary anemias as a rule present the clinical signs of tissue starvation with blood findings in which both hemoglobin and red cells are mod-

erately reduced, a low color index predominating. In extreme cases there is marked deformity of the cells with the occasional presence of normoblasts. The leucocytes may be diminished, with a tendency to relative increase in the polymorphonuclear neutrophils.

Leaving out of consideration a considerable number of cases of anemia that conform to the classification already outlined, I desire to briefly report twenty-one cases in which the clinical manifestations were those of anemia, but where the blood findings are at variance with the symptoms.

**Class I. HEMOGLOBIN AND ERYTHROCYTES BOTH ABOVE NORMAL.**

Case 1. E. P. T., M., 35. Clinical appearance, anemia with chronic gastroenteritis. Frequent attacks of vomiting and purging. Pale, often dizzy; badly constipated between attacks. Urine indicates gout.

Hb 130 per cent., R. b. c. 6,434,375, color index 1. Tendency to increase in the lymphocytes.

Diagnosis, incipient pseudoleukemia.

Case 2. E. P., F., 17. Clinical appearance, chlorosis. Constant basilar headache, dizziness, anorexia, constipation. Blood pressure high, negative for malaria.

Hb 100 per cent., R. b. c. 5,000,000, color index 1.

Diagnosis, intestinal intoxication.

Case 3. M. E. H., F., 38. Clinical appearance, anemia with much wasting. Various paresthesias, papular eruption, emaciation, pronounced neurotic state. History of probable syphilis.

Hb 110 per cent., R. b. c. 5,340,000, color index 1.

Diagnosis, tertiary syphilis, neurasthenia.

Case 4. L. G., F., 19. Clinical appearance, chlorosis, loss of flesh, pelvic disturbances, dizziness, tendency to mucous colitis, progressive weakness.

Hb 120 per cent., R. b. c. 5,970,000, leucocytes 17,850, color index 1.

Mononuclear elements increased.

Diagnosis, pretubercular state.

Case 5. H. B., F., 23. Clinical appearance, advanced anemia. Tachycardia and dyspnea on exertion, anorexia, nausea and vomiting, loss of flesh and strength, pain under scapulae, dizziness, badly constipated. No definite physical signs. Improved rapidly under iron and arsenic. Sixteen months later recurrence in more marked degree. Occasional cough, little sputum. Tubercle bacilli found.

Hb 115 per cent., R. b. c. 5,100,000, color index 1.13.

Diagnosis, miliary tuberculosis.

**Class II. BOTH HEMOGLOBIN AND ERYTHROCYTES REDUCED.**

Case 6. W. E. S., M., 30. Clinical appearance, neurasthenic. Progressive weakness, dizziness, faintness, drowsiness, distress after eating. Has dilated stomach with stasis. No positive signs, but examination suggests the possibility of the pretubercular state. Color good, bowels regular. Blood pressure high.

Hb 95 per cent., R. b. c. 4,250,000, leucocytes 2,800, color index 1.12.

Diagnosis, anemia, neurasthenia.

Case 7. A. S., F., 28. Clinical appearance, pronounced anemia. Much distress from flatulency. Dilated stomach. Headaches, progressive weakness, loss of weight, but physical examination of chest repeatedly negative.

Hb 90 per cent., R. b. c. 3,515,625, leucocytes 11,889, color index 1.2.

Diagnosis, pretubercular state.

Case 8. Mrs. W. T. R., 49. Clinical appearance, anemia. Pale, drowsy, weak, nervous, losing flesh and strength. Urine suggestive of chronic interstitial nephritis.

Hb 60 per cent., R. b. c. 4,328,000, color index .7.

Diagnosis, nephritis, anemia.

Case 9. M. A., F., 16. Clinical appearance, chlorosis. Pale, headaches, anorexia, dizziness, pain in side, flatulency, drowsy, constipated.

Hb 60 per cent., R. b. c. 4,640,000, color index .7.

Diagnosis, chlorosis.

Case 10. M. K., F., 18. Clinical appearance, typical chlorosis. Pale, loss of flesh, anorexia, nausea, constipation, dizziness, nervous symptoms, etc. Suspicion of syphilis. Feces show ova of trichocephalus dispar.

Hb 60 per cent., R. b. c., 2,600,000, color index 1.2. Eosinophiles 6 per cent.

Diagnosis, anemia from intestinal parasites.

Case 11. A. G., F., 43. Clinical appearance, extreme anemia. Gradual loss of strength without much loss of weight, cachexia with yellowish tint to skin, hemorrhages from mucous membranes, persistent nausea and vomiting, headaches, dyspnea, steady low fever, gradually increasing cardiac murmurs, constipation. Repeated examinations of chest and abdomen negative. Low blood pressure.

First hemanalysis—Hb 75 per cent., R. b. c.



1,350,000, leucocytes, 1,500. Last hemanalysis, —Hb 25 per cent., R. b. c. 590,000, leucocytes 2,200, nucleated r. b. c. not demonstrated. Color index, 2.5.

Diagnosis, pernicious anemia.

Case 12. (Courtesy Dr. G. R. Butler.) Mrs. H. W., 47. Clinical appearance, marked anemia. Steadily progressive weakness and anemia with marked gastric disturbance, hemorrhages, tendency to pigmentation of the skin. Two weeks before death there developed a condition closely resembling a diffused erysipelas with a marked brawniness and edema preceded by a rubeliform rash; high septic temperature curve, and later the appearance of profuse desquamation and bullae diagnosticated as a form of pemphigus. Patient became extremely dyspnoic. The picture was one of a profound sepsis of internal origin.

Hb 35 per cent., R. b. c. 2,500,000, leucocytes 3,000, color index .7.

Diagnosis, splenic anemia.

Case 13. W. W. W., M., 37. Skin and mucous membranes pale, headaches, feels heavy and languid, distressing gastric symptoms, rapid loss of weight, constipated. Examination of stomach contents and palpation of abdomen suggest gastric cancer.

Hb 110 per cent., R. b. c. 2,137,500, leucocytes 3,800, color index 1.2.

Diagnosis, malignant tumor of stomach.

Case 14. Mrs. J. B. T., 35. Clinical appearance, anemia. Sallow, greenish shade to skin, pale mucous membranes, dizziness, faintness, dyspnoea, weakness, constipation, bradycardia, much flatus, relaxation of muscular system, gastroenteric symptoms.

Hb 110 per cent., R. b. c. 2,137,500, leucocytes 2,400, color index 1.5.

Considerable increase in lymphocytes.

Diagnosis, anemia, chronic gastroenteritis.

Case 15. M. N., F., 17. Clinical appearance, anemia, exophthalmic goitre. Under observation over two years. At first showed typical picture of chlorosis with flatus, constipation, dyspnoea, palpitation, pain in chest and shoulder, cold extremities, etc., not yielding to treatment. There developed gradually slight but distinct exophthalmos, tachycardia, sweating, tremors, nervous symptoms, a low persistent fever and a small goitre.

Hb 110 per cent., R. b. c. 2,137,500, leucocytes 5,000, color index 2.

Diagnosis, exophthalmic goitre.

Case 16. E. M., 30. Clinical appearance, anemia. Two periods of chorea in girlhood. Re-

peated outbreaks of an urticarial eruption limited to left side of body. Vomiting and other evidences of gastric disturbance. Is pale, has headaches and constipation. General muscular relaxation. Neurasthenic.

Hb 110 per cent., R. b. c. 3,687,500, leucocytes 7,500 with lymphocytes in excess, color index 1.5.

Diagnosis, toxemia, probably intestinal anemia.

Case 17. Mrs. A. H. H., 33. Clinical appearance, neurasthenic with anemia. Progressive weakness and loss of flesh, broken sleep, tired, palpitation, dyspnoea, pain in chest and shoulder. Cold extremities, excessive sweating, blood pressure high.

Hb 100 per cent., R. b. c. 1,310,000, leucocytes 4,000, color index 1.5.

Diagnosis, anemia.

Case 18. S. H., F., 24. Clinical appearance, anemia. Greenish skin, weakness, loss of flesh, anorexia, distressing mental symptoms, menstrual disturbances, constipation, cold extremities.

Hb 100 per cent., R. b. c. 1,310,000, leucocytes 5,000, color index 1.2.

Diagnosis, anemia, sexual neurasthenia.

Case 19. Mrs. W. N. C., 26. Clinical appearance, anemia. Partial blindness coming on during lactation. Weakness, palpitation, dyspnoea on exertion, cold extremities, neurotic. Blood pressure markedly elevated.

Hb. 100 per cent., R. b. c. 4,182,188, leucocytes 7,000, color index 1.2.

Diagnosis, anemia.

Case 20. F. W. D., F., 17. Clinical appearance, anemia. Long narrow chest. Has hysterical seizures with cold hands and feet and hot head just before menstrual periods. Hectic color in cheeks, but mucous membranes pale. Heavy and drowsy, short of breath.

Hb 120 per cent., R. b. c. 4,265,000, leucocytes 5,000, color index 1.4.

Diagnosis, anemia. (Possibly an old rheumatic infection.)

Case 21. G. G. C., F., 24. Clinical appearance, rheumatism with chronic constipation and gastroenteritis. Complexion dark, but color good. Repeated attacks of "indigestion." Two severe attacks of subacute articular rheumatism. Losing weight and strength. Appetite poor, sleep disturbed, tired. Badly constipated. Sudden blindness in right eye from optic neuritis. Urine concentrated, with excess of urates and calcium oxalate.

Hb 115 per cent., R. b. c. 2,319,625, leucocytes 5,700, color index 2.5.

Diagnosis, chronic gastroenteritis, anemia, rheumatism.

Scrutiny of the cases just outlined reveals a number of interesting points. Possibly that which first attracts attention is the discrepancy between the clinical diagnosis made on the symptoms and the blood findings. The cases in Class I. were all apparently typical of anemia and yet the hemanalyses show in one case an absolutely normal blood count and in the other four a marked polycythemia. This is apparently due to a concentration of the blood plasma, though the causes working to this end in the several cases are not apparent. It is to be remarked that the Hb per cent. preserves its normal ratio to the number of erythrocytes, as the color index in each instance is approximately 1.

Class III., 9 cases, is grouped so as to show a marked disparity between the Hb per cent. and the number of red cells. The color index is uniformly high, varying from 1.2 to 2.5. All of these are cases of secondary anemia with the possible exception of cases 15 and 17. In the former I am in doubt whether the anemia causes the thyroid symptoms or is dependent on some underlying factor that is accountable for both, but incline to the latter view. Case 17 may be primarily anemic, but the character of the neurasthenic symptoms, the age of the patient and the duration of her trouble make it probable that the anemia is secondary.

None of these cases conform to the type of secondary anemia, where, as already stated, the hemoglobin is usually diminished in relation to the erythrocytes, giving an average color index of .75. The leucocytes, too, are not increased, as is to be expected. Possibly the most noteworthy conclusion from an analysis of this class is the error that is sure to ensue from an estimation of the Hb alone as is so often done in routine practice. Case 21 with 115 per cent. Hb and 2,319,000 red cells illustrates how necessary is a knowledge of the entire hemanalysis to the intelligent treatment of the case.

Where there is such an extreme disproportion we must conclude that the erythrocytes are carrying more than their normal individual share of Hb and that consequently it is not rational to treat the condition with iron, but to encourage the formation of new erythrocytes by general alterative and stimulant treatment. Here arsenic, aided by iodine, phosphorus and mercury, must be relied upon. A further lesson to be drawn from these cases is the need for a careful

consideration of the blood findings in their relation to the clinical picture as a whole.

An additional corollary is the difficulty of determining whether we have to deal with a primary or secondary anemia from the relation and appearance of the blood elements alone.

The cases in Class II seem to agree in form somewhat more closely with the primary type, as the Hb. and erythrocytes are both reduced. Cases 8 and 11 are, however, unquestionably secondary, the first being dependent on a nephritis, the second on a parasitic disease. This patient showed the marked increase of eosinophiles that occurs as a suggestive symptom of intestinal helminthiasis. Case 6 is also probably dependent on a toxemia of intestinal origin and Case 12, an example of splenic anemia, was more than suggestive, at least in its latter stages, of a toxic cause of obscure nature.

This somewhat cursory analysis of a limited number of cases seems to emphasize that a very large proportion of anemias can be traced to causes outside the blood itself and suggests that more extended observations may confirm the contention of some recent writers that all anemias are symptomatic. Osler, it is true, throws the weight of his authority against this belief, remarking in his discussion of the causes of chlorosis that were constipation a cause most women would be chlorotic. But as many of the auto-intoxications are directly traceable to insufficient bowel activity the logic of this objection seems questionable, especially when we consider that 17 out of the 21 cases reported present marked gastro-intestinal disturbances.

A word as to treatment. One can sum that of the anemias up epigrammatically in saying iron, arsenic and laxatives. The choice of an iron preparation, however, is largely dependent on individual experience, though the sophisticated literature that floods the mails would persuade us that the so-called peptonates afford the only real means of cure. In spite of these elegant pharmaceutical preparations, Bland's mass still holds its own and when properly prepared is efficient. The case reported as pernicious anemia ran the gamut of iron and arsenical preparations, including Zamboletti's arseniated iron by the hypodermic method. It failed of results, although in another case of pernicious anemia that the writer was privileged to observe it seemed of some use and was apparently efficacious in two cases of acute anemia from hemorrhage. In all the last-mentioned cases, however, it must be born in mind that rapid spontaneous recovery is

the rule, and the vagaries of pernicious anemia will sometimes show in a temporary spontaneous improvement. One case of profound secondary anemia under the writer's care, not included in the present series, resisted all other treatment, but improved rapidly under cacodylate of soda given partly by mouth, partly hypodermically. It has failed signally in Case 14.

In conclusion let me again emphasize the importance of complete hemanalyses wherever possible; not merely the routine observation of hemoglobin, which is often misleading, but the enumeration and inspection of the erythrocytes, preferably in a stained smear, and a careful comparison of the findings with the clinical manifestations, as no diagnosis of anemia should be based on either alone. It seems clear that uncomplicated anemia is much more infrequent than would appear from an analysis of symptoms alone, and that by far the greater number of cases are secondary to some form of toxemia.

162 Halsey Street.

#### SYPHILIS OF THE INTERNAL EAR.

BY B. C. COLLINS, M.D.

Surgeon Brooklyn Eye and Ear Hospital; Otolologist, Bushwick and East Brooklyn Dispensary, and Howard Orphan Asylum.

During the past year I have had occasion to treat six cases of acute syphilitic inflammation of labyrinth. The symptoms were so characteristic and the evidences of the general infection were so plain that there was not the slightest degree of doubt in their cases.

The disease is much more common than one would suppose, and many of the deaf ears that we often see are undoubtedly caused by this disease. It may be unilateral, but it is usually bilateral, one ear being more affected than the other.

Crockett (*Boston Med. and Surg. Journal*, 1897) describes the condition very accurately. Symptoms are sudden and severe deafness, much more pronounced in one ear and gradually increasing in the other, more or less vertigo and violent tinnitus occurring in persons previously free from ear trouble. These symptoms should always suggest syphilis. We do meet the same in rare cases of labyrinthian hemorrhage or tumor and also in the rare sudden fixations of the stapes. Tuning-fork examination is of the greatest importance. Bone conduction is diminished or entirely lost. The upper tone limit is diminished, lower tone usually unaltered.

Pathological changes are not clear; clinical

evidence would seem to favor an effusion into the labyrinth.

Usual time is the late secondary or early tertiary period, although in one of my cases the initial lesion was six years previous.

The dizziness may be very severe, so great that rest in bed may be necessary.

Of course the diagnosis cannot be made with these symptoms alone, but the general and characteristic symptoms of syphilis will seldom be lacking.

The objective examination will either reveal a normal condition of drum or the changes characteristic of an accompanying middle-ear inflammation. The Eustachian tube may be permeable, or if a laryngitis exists it may be swollen, or in a syphilitic ozæna occluded by crusts.

The cause of syphilitis of the labyrinth (Politzer) is characterized by the rapid development of disturbances of hearing. Usually deafness very pronounced on the third day after the beginning of impairment of hearing. In other cases the impairment may stop for a time to become much worse two or three months later. Improvement takes place gradually, if at all, and perception of sound through the cranial bones returns.

Hereditary syphilis affects the ears in 10 per cent. of all children so affected (Hutchinson and Jackson), but as my paper deals with acute infection I shall say no more on the subject.

Prognosis (Politzer) of this affection is unfavorable. My experience has been otherwise; if the cases are treated early, they will fully recover, and all will greatly improve, still hearing may remain somewhat impaired and an annoying tinnitus will persist at times in spite of treatment.

The line of treatment is that of general syphilis, and in addition pilocarpine is of great service.

Case 1. A young woman, a domestic in the employ of a family who were patients of mine. She had been treated in a dispensary, but no tuning-fork examination had been made and for four weeks she had been treated for an accompanying middle-ear obstruction. She grew rapidly worse and when I saw her, deafness was very marked, and dizziness prevented her walking unaided. Although I could get no history of infection she was undoubtedly syphilitic. Mucous patches, falling of the hair, and a laryngitis were my guiding points. Tuning-fork showed absence of bone conduction for Hartmann series in the right, the worst ear. After four months' treatment she was well, with slight impairment of hearing, some tinnitus, but no dizziness.

Case 2. A male, 28 years of age. A resident of Buffalo. Infection four months previous. Had been in a private retreat in Buffalo for syphilis. Had been salivated twice, and put on a tonic of iron, quinine and strychnia for two months when he was expected to return. On a visit to this city he was stricken with deafness and tinnitus with dizziness, which by the fifth day was so pronounced as to make him afraid to venture on the street for fear he would be arrested for intoxication. No sign of syphilis about him but his history. In the treatment it was necessary to confine him to bed for three weeks. Both ears affected, no middle-ear inflammation, normal drums. Tuning-fork characteristic of labyrinthian disease. He improved much more rapidly than first case and in two months was practically well.

Case 3. A male, 32 years, painter by occupation. The symptoms in one ear only. He claimed to have had lead-colic when this attack came on, but he had numerous mucous patches, a rash a short time before, with falling of hair. Improvement was slow. I saw him twice and he disappeared from view.

Case 4. A male, 26, admitted to the Brooklyn Eye and Ear Hospital. Infection about three months ago. Had been treated for a short time for syphilis with such rapid improvement that he thought he was well. Deafness in both ears, extreme dizziness, staggering gait, first noticed six days before visit to hospital. He was put to bed. Hypodermics of pilocarpine given twice daily for two weeks, together with medical treatment and injections of mercury. Pilocarpine stopped on second week. He remained at hospital six weeks, returned as out-patient for three weeks more; symptoms gone except tinnitus. Have not seen him lately.

Case 5. A male, carpenter. Patient of Eye and Ear Hospital. Sudden deafness and tinnitus in both ears; afraid to work—fears he will fall. Began one week ago; dizziness just beginning. Infected six years ago in Australia. Treated for two years. Deep ulcerative lesions on skin and ulcer of soft palate. Taken in the hospital and treated as Case 4 except pilocarpine given by mouth, as he was not dizzy. He was shortly placed as an outdoor patient, and I kept track of him twice weekly and he is still under observation. A slight tinnitus the only symptom.

Case 6. A young man, 28, sent by family physician; history of a severe pharyngitis, and was sent to me to blow out ears. Examination

showed normal drum, tuning-fork test characteristic of labyrinth disease; a severe pharyngitis; numerous mucous patches; very severe deafness in right ear, tinnitus and great dizziness, especially when lying down; hair falling; glands enlarged; a doubtful history of infection six years ago. No treatment. On the third visit I learned of a later infection three months before present attack. Sore treated by calomel; later rash and falling hair. The case has been under observation long enough to see dizziness disappear.

These cases show the importance of a routine practice of tuning-fork examination in all cases, however slight the trouble may seem, and then again we may have an accompanying ear trouble which would mislead one. The error on the first case would not have been made had the practice been followed.

Buck, in 1879, reported 30 cases out of a total of 3,976 or a little over  $\frac{3}{4}$  of 1 per cent. where ear was involved. Also states very accurately pathological changes. Appearance of drum he regards as diagnostic of middle-ear infection; also if deafness is great he infers that, with good drum, nerve must be involved. He assumes the labyrinth to be seat of disease; seventh nerve affected or labyrinth. Symptoms same as in my cases. Treatment gave good results.

Burnett, Philadelphia Polyclinic, 1886, does not regard the disease as remediable unless seen very early.

Theobald, 1886, Trans. Am. O. Soc., reports a case with great variation of hearing power, during treatment of syphilis by mercury and iodide, also tonics. Not a good tuning-fork test, probably due to a middle-ear complication.

David Webster, Trans. Medical Soc., State of N. Y., 1883, two cases that recovered where disease had existed for a long time.

Pomeroy, same journal, does not separate syphilitic middle-ear from interior ear; thinks labyrinth always involved.

Brahl, 1902, shows tuning-forks examination, and explains value; also recommends pilocarpine, also advises protecting ear against loud noise.

Bacon says that it does not usually appear with the rash, but is more likely to be observed during third stage. He regards pilocarpine as the most valuable drug in treatment, 1902.

At the Brooklyn Eye and Ear Hospital we have been using the drug for 12 years to my knowledge for these cases, in addition to the usual syphilitic treatment.

## WHOOPING COUGH: ITS PREVENTION AND TREATMENT.

BY LOUIS C. AGER, M.D.

Among the causes that have led me to prepare this paper the most prominent is before you in these columns of figures. The fact that there are more deaths from pertussis than from typhoid fever in this city does not seem to be generally known to the members of the medical profession, and even the physicians who are aware of it do not apparently give much thought to the matter.

Although this is one of the medical facts that the public would be better off for knowing, I have not yet met a parent who was aware of it. The newspaper-reading public is always eager to learn medical facts, and most newspaper men have an idea that physicians are very loath to make their medical knowledge public. If every physician here to-night would tell every acquaintance he met to-morrow, 1st, that whooping cough causes more deaths in Brooklyn than typhoid fever, and, 2d, that it is always contracted from someone already suffering from the disease, and, 3d, that it may therefore be prevented—theoretically at least—by proper precautions, if we would all take that step I venture to say that there would be two very definite results. 1st, we would be permitted and expected by the parents to take more strict and continuous charge of children suffering with this disease. 2d, there would be an appreciable diminution in the infant mortality in this borough.

In other words the object of this paper is to call attention to the fact that seems to be too little recognized even in the medical profession, that pertussis is not a mere passing phase of childhood, but a serious menace to health and a pathological condition that can be and ought to be greatly ameliorated by scientific medical supervision. This fact is recognized by most writers on the subject. In Meigs & Pepper are the following statements:

"The danger in whooping cough, which is considerable, depends, therefore, almost entirely upon the complications that are apt to occur, for which reason the physician should watch with the closest attention, in order to prevent their occurrence and that he may recognize and treat them in their earliest stages."

The most dangerous complication is convulsions and after that bronchitis and pneumonia."

"If the child becomes languid and irritable, with indisposition to take food, feverish with an

increase in rate of respiration the practitioner should be on his guard."

"Some form of complication occurred in 65 of the 208 cases. Of these 65, 12 died."

Penrose says in Allchin's "Manual of Medicine": "The prognosis in uncomplicated cases is favorable; nevertheless the mortality is high." . . . In early infancy the disease is always attended with anxiety.

Wm. Ewart, in the *Br. Jour. of Chil. Dis. Apl.*, 1905, speaks of "the archfiend, whooping cough."

Such quotations might be multiplied indefinitely from widely different sources, but these are sufficient proof of the fact that pertussis is a dangerous disease and ought to be treated accordingly.

It would be a waste of valuable time for me to go into the history of pertussis, except so far as it bears practically upon the prevention or treatment of the disease or upon our understanding of its causes. There is an excellent resumé of the older bibliography in Ziemssen and a more extended history of the disease in Hirsch's "Handbook of Geographical and Historical Pathology."

Ziemssen states that the first definite descriptions of pertussis were given by Baillou (circa 1600) and Schenck (circa 1650). Previous to that century the disease does not seem to have been differentiated from epidemic influenza, but from that time on it spread rapidly, was at times very virulent, and was described graphically by many authors. These facts are of interest in relation to our present knowledge of the etiology and I shall speak of them again in that connection.

A few of the earlier statistics will not be out of place here to fortify those given previously.

From 1848 to 1855 72,000 persons, one-fortieth of all who died, succumbed to whooping cough in England and Wales.

Between 1749 and 1764 43,000 children died of this disease in Sweden. Of these 5,832 died in one year.

It is recorded that 9,000 children died of this disease in Rome in 1580.

In Prussia from 1875 to 1880 nearly 85,000 died of whooping cough.

In Ireland in 1845 it was epidemic with a mortality that placed it fifth among the diseases of the community. In 1841 there were 37,300 deaths from whooping cough in that country.

In England and Wales from 1881 to 1890 the mean annual death rate for children under 5 years was 12.97 for respiratory diseases, 4.35 for

diarrheal diseases, 3.37 for pertussis, 3.13 for measles, and 1.67 for scarlet fever.

In reading the early references to whooping cough in the United States it is at once evident that the disease was not, for a long time, endemic in this country, in fact not until the early part of the last century. And in Greenland, although there had been several epidemics, the disease was not observed between 1849 and 1864.

In California it did not become indigenous until 1846.

All these facts seem to indicate that the disease is comparatively new and that it has gradually fastened itself upon the large communities in this country until we have settled down to take for granted a death rate that ought to be largely prevented.

*Etiology.*—Pertussis was recognized almost from the first as an infectious disease, but the direct infecting agent was not correctly described until very recently.

As far back as 1867 Paulet in the *Compte Rendu* reported that he had found the cause of the disease in the bacteria of the air expired by whooping cough patients. In 1870 and later, in Virchow's Archives, Letzerich described as the cause a "micrococcus fungus" found in the sputum and in the mucous membranes. When it was transmitted to rabbits it induced violent attacks of coughing and small spots of pneumonia and collapse of the lungs. These observations were confirmed in a perfunctory manner by others. Birch-Hirschfeld, however, after a careful investigation in 1878 "was unable to convince himself either of the uniform appearance of Letzerich's micrococcus in the sputa, or of the conveyance of the disease by the sputa to animals."

In regard to the generally accepted idea that there is some relation between whooping cough and measles, Hirsch, after a review of a large mass of statistics, said in 1886: "It is impossible to decide whether that coincidence is to be referred merely to chance or whether the two diseases have something in common in their causation. However the coincidence is not so uniform as to warrant the assumption of a relationship between the two diseases."

In 1887 a Russian physician, Afanasieff, described a short bacillus as the pathogenic organism and claimed to have confirmed his discovery by animal inoculations. Later another Russian, Seitschenko, confirmed Afansieff's report. Later investigations, however, failed to confirm these findings

In 1897 Koplik described the organism that is now pretty generally recognized as the causative agent in pertussis. In his book he says: "I found in sputum a finely punctate thin, minute bacillus, 0.8 to 1.7 micromillimeters in length, resembling the influenza bacillus, and staining like that or like the diphtheria bacillus. This bacillus was found recently by Luzatto in cases occurring in an epidemic in Gratz. It is classified by him as belonging to the influenza group. Positive proof that this bacillus is the cause of pertussis is lacking since the disease has not yet been produced experimentally. Evidence simply points towards a bacillus of the influenza group constantly found in the sputum."

I quote thus at length because this evident relation between the causes of influenza and of pertussis is of interest in connection with the fact previously stated that previous to 1600 there was no definite description of pertussis, but the disease was more or less confused with influenza. This can hardly be explained on the ground that the physicians of early times did not recognize the disease. While there was much ignorance in the medical profession in the Middle Ages a disease of such common occurrence and such definite symptoms could hardly have escaped the notice of one of those brilliant medical minds that appeared from time to time in Europe.

The recent investigations made by De Vries, the Dutch naturalist, upon the development of the wild evening primrose (*Oenothera Lamarkiana*) suggests a more plausible explanation. De Vries in thousands of seedlings of the evening primrose found eight definitely new species constantly recurring. Under purely natural conditions they were soon lost by the preponderance of the ordinary species, but as soon as they were given a suitable environment they prospered and gave no evidence of retrogression to the original type. In other words De Vries has found a specific instance of the evolutionary creation of a definite new species, only waiting a favorable opportunity to become disseminated.

Is it not probable that some time before 1600 there began to develop from the influenza bacillus, as a parent stock, a new species which, in turn, produced a new disease?

As to the method of transmission of pertussis, opinions differ widely. In 1903, Morse, of Boston, sent out a letter to the members of the American Pediatric Society asking their opinion as to the possibility of indirect transmission. In summing up he says:

"The cases reported, although very few, seem

to justify the presumption that whooping cough may be carried by third persons, or by clothing and other articles. The fact that forty men of such wide experience have seen such a small number of cases in which they could satisfactorily to themselves exclude direct contagion shows, however, that it must be very seldom that whooping cough is carried in this way."

On the other hand, Penrose, of London, England, says in Allchin's Manual of Medicine (vol. I, p. 341):

"From the above it will be seen that the infection is contained in the expectorated mucus. By this means the disease is frequently spread through the medium of clothes, bedding, curtains, etc., as is the case with scarlet fever. . . . By this means individuals themselves unaffected may convey the disease. . . . It may perhaps also be spread directly by the breath, but if so, the infection does not apparently spread very widely."

This is certainly a question that ought to be correctly answered by accurate clinical observations, and I would be very glad to receive and tabulate any definite data that bear upon the subject.

*Symptomatology and Diagnosis.*—In a paper of this kind it would be useless to enter into an exhaustive discussion of the symptoms of pertussis. The symptoms of a well-developed case are so typical that the diagnosis is made by the parents of the sufferer without the aid of a physician.

It is the accepted teaching that the "whoop" is necessary for a positive diagnosis. If, however, there are any premonitory symptoms or conditions that will lead to a diagnosis sufficiently early to prevent the infection of others, they are of the utmost importance. In 1897, during the early enthusiasm of blood-counting, Froelich examined the blood of children in various stages of pertussis and found a decided leucocytosis, from 10,000 to 20,000, the increase due chiefly to an increase in small and large lymphocytes. These findings have been confirmed by various investigators. (See *Arch. of Ped.*, August, 1905.) In this country, Wanstall of Baltimore has done considerable work in this line, but his conclusions are not at all encouraging, even in his original publication (see *Am. Med.*, 1903, Vol. V, p. 62), and last spring he wrote to me that further investigations were even less encouraging.

Koplik lays great stress on the presence of a paroxysmal croupy cough, more troublesome at night, without any auscultatory indications of

bronchitis, as a valuable diagnostic sign. In such cases it would, of course, be important to exclude adenoids as the cause of the cough.

Filatov, the Russian pediatricist, whose book was translated and published in Chicago about a year ago, says, "The diagnostic value of the ulcer on the frenum is great, as it occurs almost exclusively in whooping cough." This is entirely contrary to the teaching of other pediatricists, and in my experience the frenal ulcer is present in but a small proportion of cases.

Filatov, however, has called attention to the findings of two other Russians that promise to be of considerable diagnostic value. Blumenthal and Hippus of Moscow claim that the urine even in the period of incubation presents definite changes. According to them it is of a pale color and clear, but the specific gravity is high, from 1,022 to 1,035. This change is due to a marked increase in uric acid which is deposited in a fine white powder on standing. During the past three months I have found the conditions as stated in about a dozen well-developed cases, but I have not had an opportunity of testing the early diagnostic value of the urinary examination. I would urge that this simple method of diagnosis be given a general trial in order to determine its actual value. I would be glad to tabulate all findings sent to me for the purpose.

In the *Phil. Med. Jour.*, Feb. 7, 1903, Marion M. Hill reviews the history of 55 fatal cases. In this article the doctor pointed out the danger signals of the disease as follows:

"It will be noted that in these cases the complications were not the primary causes of death. . . . In all, but especially in the case of very young infants, the danger signal was either a developing stupor or an attack of prostration. . . . They seem to have resisted the toxemia until their vital forces could resist no longer. When they could resist no longer then they yield all at once."

In my own experience I have seen but one case of this kind, and that child improved quickly under the administration of full doses of strychnine. Since I have used digitalis more freely I have not seen any marked prostration.

*Treatment.*—Almost all medical writers begin their discussion of the treatment of whooping cough with some reference to the fact that there is almost no drug in the pharmacopœia that has not been recommended for the treatment of that disease. For many years belladonna was the favorite remedy, but we do not hear so much



about it now. The more recent favorite, antipyrine, seems to be less used than it was a few years ago. Antitussin, which has had quite a vogue in Germany, and to a less extent in this country, seems to owe its popularity to skillful advertising rather than to any definite results from its use.

There is a growing tendency among physicians not to treat pertussis at all—to tell mothers that the child has to go through with it the best it can. Such practice needs to be mentioned only to be condemned.

Theoretically, the treatment of any acute self-limited disease should consist in attempts to modify the severity of symptoms and to shorten the course of the disease, if it is possible to do so. It is the general belief that it is not possible to shorten an attack of whooping cough. Yet some attacks are much shorter and much less severe than others, and we have all seen cases in which the disease came to quite a sudden end. If, therefore, we could determine the reasons for this difference in severity we would have a clue for the proper treatment. In the meantime we must each use the line of treatment that seems to give us the best results. In the treatment of any disease we should first determine just what we wish to accomplish and then formulate our plans accordingly. In pertussis we would like, of course, to remove the cause, the foreign body producing the laryngeal irritation. Whether this is a direct irritation of the mucous membrane by the infecting organism or an irritation of nerve centers by the toxin of the organism we do not yet know. Probably there is a combination of the two conditions. Neither of these theories ought to discourage a systematic attempt toward at least a partial disinfection of the mucous membranes.

In 1902 two German physicians reported that formalin inhalations, if properly used, were a sure specific for the treatment of pertussis. For some years before that I had been using formalin on the theory of local disinfection, and while it can hardly be called a specific, it is certainly a very useful line of treatment. With its use you will see a larger proportion of mild cases running three or four weeks, than without it. The formalin probably acts in a double capacity. It has some action, no doubt, as a disinfectant, and it also renders the expulsion of the tenacious mucus easier by stimulating the watery secretion. This gives it all the efficacy of the disgusting vaporesoline lamp without interfering with oxygenation. The formaldehyde may be generated

from a small lamp, but lately I have been using the aqueous solution by sprinkling it about the room, on the pillows at night, on the child's clothes during the day. Of course, it must come in contact with the skin or mucous membranes.

To further assist in liquifying and expelling the tenacious mucus and at the same time soothing the irritated mucous membranes, I invariably use a combination of apomorphine muriate and codeine phosphate. In children the dose of apomorphine is from 1-30 to a 1-16 of a grain, repeated every half hour for several doses, with longer intervals between paroxysms. So far as this drug affects the stomach at all it is soothing rather than otherwise.

Digitalis should, of course, be used to steady the heart in greater or less amount *pro re nata*.

For the past year I have been using with a great deal of satisfaction Dr. Kilmer's elastic belt, or rather a modification of it. My only change is to substitute for the elastic material a plain band of strong, unbleached muslin, fastened snugly with safety pins like a post-partum abdominal binder. This seems to work fully as well, and it is much simpler and therefore more likely to be applied as directed.

There are two other points in the mechanical line of treatment that are of some value. The first which was recommended some years ago in the *Archives of Pediatrics*, is to pull down the jaw during severe paroxysms of coughing. This is more particularly of value in nervous children who continue a paroxysm of coughing after the actual irritation has been relieved.

The other point is of very great practical value in children old enough to understand it. It consists in training the child to cough properly, that is to cough with the lungs full of air, as far as possible, and never with the lungs empty. This, of course, does not apply to pertussis alone nor to children alone. Many adults are surprised to find what a relief it is to know how to cough during an attack of bronchitis.

The only other point to be considered here is that of feeding. It goes without saying that it is of the utmost importance to keep the patient as well nourished as possible. Fortunately, the digestive processes themselves are rarely disturbed, so that the problem is to keep food in the digestive tract long enough to have it assimilated. This is best accomplished by small, frequent feedings of readily digestible food or of food that passes into the intestinal tract soon after feeding.

ANNUAL DEATHS IN BROOKLYN FROM  
Typhoid Fever. Whooping Cough.

|            |     |     |
|------------|-----|-----|
| 1868 ..... | 108 | 191 |
| 1869 ..... | 96  | 193 |
| 1870 ..... | 111 | 71  |
| 1871 ..... | 92  | 110 |
| 1872 ..... | 149 | 96  |
| 1873 ..... | 103 | 136 |
| 1874 ..... | 81  | 130 |
| 1875 ..... | 102 | 161 |
| 1876 ..... | 97  | 190 |
| 1877 ..... | 82  | 118 |
| 1878 ..... | 59  | 195 |
| 1879 ..... | 59  | 204 |
| 1880 ..... | 71  | 111 |
| 1881 ..... | 99  | 118 |
| 1882 ..... | 93  | 249 |
| 1883 ..... | 92  | 132 |
| 1884 ..... | 107 | 222 |
| 1885 ..... | 153 | 157 |
| 1886 ..... | 123 | 260 |
| 1887 ..... | 143 | 59  |
| 1888 ..... | 153 | 194 |
| 1889 ..... | 161 | 281 |
| 1890 ..... | 182 | 238 |
| 1891 ..... | 180 | 140 |
| 1892 ..... | 162 | 192 |
| 1893 ..... | 179 | 261 |
| 1894 ..... | 159 | 243 |
| 1895 ..... | 173 | 263 |
| 1896 ..... | 163 | 179 |
| 1897 ..... | 173 | 164 |

GREATER NEW YORK.

|            |                |                 |
|------------|----------------|-----------------|
|            | Typhoid Fever. | Whooping Cough. |
| 1898 ..... | 676            | 716             |
| 1899 ..... | 514            | 546             |
| 1900 ..... | 718            | 584             |
| 1901 ..... | 727            | 289             |
| 1902 ..... | 764            | 606             |

TRANSACTIONS OF SOCIETIES.

THE MEDICAL SOCIETY OF THE  
COUNTY OF KINGS.

STATED MEETING, October 17, 1905.

The President, J. W. FLEMING, M.D., in the Chair.

There were about 175 members present.

The meeting was called to order and the minutes of the previous meeting read and approved.

The resignations of Dr. Joseph H. Hunt and Dr. Arthur Mathewson were reported from the Council, and on its recommendation they were

elected, by vote of the Society, to honorary membership.

REPORT OF COUNCIL.

The following candidates for membership have been accepted by the Council:

George Burkard, 187 Jefferson Ave.

Robert Kingman, 16 Putnam Ave.

John H. Long, 97 Halsey St.

Robert L. Moorhead, German Hospital.

APPLICATIONS FOR MEMBERSHIP.

Applications have been received from the following:

J. Henry Bremer, 650 Leonard St., Bellevue, 1897.

Proposed by Membership Committee.

Charles Eastmond, 382 Adelphi St., P. & S., 1904.

Proposed by John R. Stivers, seconded by Paul M. Pilcher.

Samuel K. Frost, 810 Washington Ave., P. & S., 1895.

Proposed by Florence G. Emerson, seconded by Membership Committee.

James S. Slavin, 174 North Sixth St., N. Y. Univ., 1897.

Proposed by Florence G. Emerson, seconded by Membership Committee.

Charles F. Duryea, 4 Clark St., Jefferson, 1901.

Proposed by C. B. Bacon, seconded by J. A. Lee.

ELECTION OF NEW MEMBERS.

The following have been duly proposed and accepted by the Council were declared, by the President, elected to active membership:

Edwin M. Beery, 313 Lafayette Ave.

Edward Eberle, Kingston Avenue Hospital.

SCIENTIFIC PROGRAM.

1. Paper: Surgery of the Female Pelvic Floor. By Charles Jewett, M.D.

Discussed by Drs. Cragin, Dickinson, L. G. Baldwin, McNaughton, Hyde and Stuart. Closed by Dr. Jewett.

EXECUTIVE SESSION.

The Committee on Bond Issue reported that 145 bonds out of the issue of 700 had been subscribed for.

Adjourned.

JOHN A. LEE,  
Secretary.

## THE MEDICAL SOCIETY OF THE COUNTY OF KINGS.

STATED MEETING, SEPTEMBER 19, 1905.

The President, J. W. FLEMING, M.D., in the Chair.

PAPER: RELIEF OF HAY FEVER BY RADICAL INTRANASAL OPERATION. BY ALEXANDER C. HOWE, M.D.

### *Discussion.*

DR. W. C. BRAISLIN was interested in Dr. Howe's paper, particularly from the fact of its emphasizing the surgical treatment of hay fever. If the speaker should criticize the doctor's paper at all, it would be from the point of view of his omitting certain cases in which the nasal lesions were less prominent. Almost all the cases to which the doctor had referred were cases in which bony or cartilaginous deflections or spurs or polypi or definite lesions were present, whereas there are cases in which we see very little of a pathological condition. The speaker believed that there is in almost every case of hay fever some pathological condition in the nose, which should be corrected. Bosworth, a good many years ago, drew attention to the trinity of symptoms which we call hay fever. He designated the disease vasomotor rhinitis and assigned to it three prominent factors, one of which was the nervous element. Bosworth also emphasized the factor of a nasal pathological condition, as well as the presence of a local irritant in the form of dust, pollen, gases or odors, which furnish the immediate cause of the attack.

The disease is distinguished in one way from every other disease in the calendar. It is the only disease the sufferers from which have formed themselves into an association. The United States Hay Fever Association, which meets annually at Bethlehem, in the White Mountains, has a very large membership; the membership consisting in most part of men of wealth and culture, and many of them professional men. They meet each year at Bethlehem, where the claim is made, of course, that there is the greater immunity from hay fever of any spot in the world, and the claim seems to be true. It appears to be a place where there is greater immunity from hay fever than even in places in the immediate vicinity, which have the same altitude and where other conditions seem exactly similar. It is true that the gentleman who runs the hotel is a member of the association and apparently a good business man. The sur-

roundings are very beautiful, and patients of the speaker who had been there reported having secured entire immunity while there.

The psychic factor, of course, has something to do with it. At the same time there are other factors which act toward the relief of these cases. The climate, the altitude, the increased elimination—these also are factors. Haig, in his book, refers to these people as among the sufferers from uric acid, and properly so, because many of them are people of impaired vitality, not necessarily suffering from any organic disease, or suffering in such a way that their lives are threatened, but many of them have disturbances due to overwork and worry, and a large number of them are of a nervous temperament. There are many cases which show the results of inheritance.

A report which the Hay Fever Association gave forth a year or two ago made the claim that there was no curative remedy for hay fever. It stated that their members had tried everything in both the lines of surgery and of medicine, and that for a permanent cure (that is to say, any remedy may give temporary relief), there had been nothing which had been found. In other words, many men in the association would prefer to keep their hay fever and enjoy a pleasant vacation than to undergo certain surgical procedures.

We all see cases which have not the time or the means to go away and remain away during the entire hay fever period. We treat these cases and almost invariably have the satisfaction of seeing them relieved, rarely cured, by our local surgical measures. More than that, we have many remedies which are capable of giving relief to the distressing symptoms during the attacks when radical procedures may be impractical, such as suprarenalin, adrenalin and remedies of the same type. These products are among the best we have for local use.

During the acute attack in some cases in which we find the mucous membrane of the nose greatly hypertrophied, it is often a good procedure, after thorough cocainization, to make a deep, clean incision through the swollen tissue. This will often give relief for several days; sometimes for the rest of the season.

It has been found that the use of chromic acid during the severe hay fever attack is unwise, although some authors recommend it; likewise some other, more severe, surgical measures. We must remember, the speaker said, that the mucous membrane of this region can be thoroughly anesthetized locally, and if there is no other reason against it, there seemed to be no reason why the

surgical procedure chosen should not go on while the attack is imminent. The doctor believed that in almost every case of hay fever there is some pathological condition in the nose which should be treated either between the attacks, or, if there are no contraindications, during the attacks as well.

DR. S. H. LUTZ thought in a few years' time we will change our minds about hay fever. He believed that hay fever in a great many instances is due to some pathological condition of one of the accessory sinuses of the nose, and in the last few years the work done in that direction and the progress made in the study of this condition has broadened decidedly our knowledge of the accessory sinuses of the nose. We knew they were there before, but nobody did much with them.

Dr. Howe spoke of many of his cases having supraorbital pain, and a good many of them were relieved quickly after operation. That is also true of sinus conditions. As soon as the sinus is opened, or drainage obtained, or air enters the sinuses and the congestion of the mucous membrane lining any or all sinuses is relieved, the trouble stops almost immediately. You have to do the work of clearing out spurs and relieving deflections and polyps and congested mucous membranes of the turbinates—all this work Dr. Howe has done. Dr. Lutz was rather of the opinion that a good many of the doctor's cases are going to come back after a while and will not be quite as comfortable as before, because he did not believe Dr. Howe did enough for them. He did not mean to criticize Dr. Howe, for we have all done the same kind of work on hay fever cases for some years, until recently.

The trouble with the work in the nose up to within the last few years is that it has not been radical enough. He was misled by the title of Dr. Howe's paper, "Radical Relief of Hay Fever. He did not believe it radical enough. He did not think Dr. Howe got to the source of the trouble, and he thought that it is true of a good many hay fever cases. Many have one of their frontal sinuses involved. The pressure in the nose is relieved, this relieves the pressure up above, clears up the turgescient mucous membrane, the sinus opens up, and the patient feels better. The speaker believed as we get to know more about the ethmoid and the frontal and sphenoidal sinuses, we are going to get much better results from nose and throat work.

Hay fever, as we call this group of symptoms

to-day, is going to be split up into other diseases when we get to know the pathological conditions of sinuses better, just as "inflammation of the bowels" of the past has been divided and subdivided until now each separate organ in the abdominal cavity has some recognizable pathological condition which can be and is treated alone without reference to the rest of the abdominal contents.

DR. B. C. COLLINS inquired if the doctor was correct in calling many of the cases he reported where nasal polypi or other nasal lesions were present, as hay fever. He hardly thought he was, because they were entirely relieved by the removal of the nasal polypi or other operative measures. He thought there are many cases of hay fever where there is no pathological condition in the nose. It seemed to him that judging by the number of people who are cured of hay fever, we know little about it.

The pathological conditions the doctor spoke of must be relieved by operation, the speaker said. There is no question about that, but the doctor was not correct in classing all these cases under hay fever. They have some hay fever symptoms, but many of them had the same symptoms all the year round. The speaker would call them merely cases of nasal obstruction, bony or by polyp. He believed we cannot cure hay fever at the present day when we know so little about it.

DR. A. C. HOWE stated that he classified those cases that were not distinctly hay fever with hay fever, because the conditions are similar. They are all conditions of two vasomotor paralysis, and if you relieve these conditions in one instance frequently you relieve them in other forms.

In regard to the sinuses he would say that his claim had been that the most distressing symptoms of hay fever have been from obstructed circulation from areas of pressure; that all these symptoms come from there being a block or obstruction of the circulation in the nose produced by some special irritant at certain times of the year. If there is an obstructed circulation the sinuses are involved along with the rest of the nose, and anything that relieves the rest of the nose will relieve the sinuses, so that it may not always be necessary to go into the sinuses to relieve the inflammation there. You do not have to go into the frontal sinus in acute sinusitis to relieve the pressure pain. If you remove the tip of the middle turbinal pressing on the frontal duct, you will be able to relieve the pain and pressure symptoms very quickly.

## THE BROOKLYN SURGICAL SOCIETY.

REGULAR MEETING, OCTOBER 5, 1905.

The President, T. B. SPENCE, M.D., in the Chair.

## BRANCHIAL FISTULA.

DR. W. F. CAMPBELL presented a man, 30 years of age, whom he had operated on for a branchial fistula of the lateral variety, which first made itself manifest when the patient was 18 years of age by a pimple presenting at the internal margin of the clavicular attachment of the sterno-mastoid muscle, which subsequently broke down and discharged. The discharge continued for twelve years. It was not a blind fistula, but open at both ends, one end being on the apex of the tonsil.

The case was interesting because of the intricate dissection it was necessary to make to get it out, and the speaker thought the method which he used a rather good one in such cases, because it is difficult to follow up a fistula of that kind, imbedded, as it is, among the deep vessels, so he injected the fistula with parafine solution, and this caused the fistula to stick out like a whip cord. When he got as far as the tonsillar opening it was difficult to know how to complete the operation and get out all of the fistulous sac. He dissected the fistulous tract up as far as the tonsillar opening and then inverted it into the pharynx and tied it off at that point.

## LYMPHO-SARCOMA OF THE MEDIASTINUM.

DR. W. F. CAMPBELL spoke of a case of mediastinal tumor which was sent to him for operation for goitre. The patient was 21 years of age. The first symptom presented was that of hoarseness. There was no tumor noticeable; the only sign was this loss of voice. In March he began to have a swelling in the region of the thyroid. The swelling and hoarseness continued and the breathing began to be troublesome. About three weeks before the speaker saw him the patient could not sleep when lying down. His appetite was very poor and swallowing caused him pain. Because of the symptom of hoarseness the speaker was rather doubtful of its being goitre, because in goitre the tumefaction is first and the hoarseness is a later symptom; so he sent the man into the hospital for further investigation, and in order that he might make an X-ray picture to see if there was any shadow in the thorax which would be at all suggestive.

The physical examination presented the following points:

Reveals a man 25 years of age, good muscular frame, skin pale, extremely dyspnoic and unable to breathe except in sitting position. Breathing stridulous, voice brassy, face pale, lips slightly cyanotic. Right pupil dilated, left normal, both react to light accommodation. Sclera pale; mouth, pharynx and spine negative. Projecting above suprasternal notch is a tumor half the size of a lemon lying between the two sterno mastoid muscles and in front of thyroid and cricoid cartilages pushing the larynx and hyoid bone upward and backward, evidently not attached to larynx or thyroid gland, moderately firm on pressure, non-pulsating, gives no thrill or murmurs, and no tracheal tug on elevation of larynx. Dull on percussion. This dullness is continuous with marked dullness beneath the first piece of the sternum. The cervical and submaxillary glands on right side are not enlarged, but the glands in the left lower cervical region are enlarged to the size of a small almond. Over the first piece of the sternum there is a marked dullness. This is continuous with the heart dullness, but this appears to be more marked in the upper half of the cardiac area. Over the upper piece of the sternum there is no pulsation, thrills or murmurs. The left border of the heart percusses one-half inch to the right of nipple line. The sounds at the apex are moderately distinct. No murmurs are heard at this point. There is a marked dullness to the right of the sternum in the second space for two inches. This is as far down as the fifth space where the dullness becomes continuous with liver dullness. Over the upper half of the heart the sounds are very faint. No murmurs are heard. There is no thrill, or murmurs, or pulsation over area of dullness to right of sternum. Both radial pulses are synchronous, but the left is a little smaller than the right. Over both lungs the breathing is feeble, inspiration being shallow and quick. Loud bronchial sounds are transmitted through the lungs. There is no dullness to left of spine posteriorly; the abdomen is negative. Paroxysms of coughing occur every few minutes and with each effort about one or two ounces of muco-purulent material is ejected.

Dyspnoea was so great it was impossible for the patient to lie down. The second night he was in the hospital he arose and got out of bed to get something, and as he did so he fell down and expired.

At the post mortem in the mediastinum, just above the pericardium, and attached to it, was a large tumor, about the size of the head of a six-

months' foetus. This had been pressing on the structures, crowding the bronchus and lungs to one side, and affecting also the recurrent laryngeal nerve. The examination of the tumor showed that it was a lympho-sarcoma.

#### IODINE AND PHENOL INJECTIONS IN HYDROCELE.

DR. J. M. CLAYLAND told of a man who two years ago came to him with a large double hydrocele. He had been tapped repeatedly without cure. The speaker tapped both sides, injecting tincture of iodine. One side was cured, the other refilled, and about a year afterward he tapped him again, using an iodine injection. The scrotum again filled, and last summer the speaker tapped it, injecting a mixture of carbolic acid, tincture of iodine and alcohol. The patient had less pain after this injection than after any of the previous ones. The next day the scrotum was tremendously swollen, and congested so intensely that he was afraid the whole side of the scrotum would slough, but it finally subsided. The patient was cured. The speaker mentioned this case to call attention to the danger of inflammatory reaction after injections.

#### SARCOMA OF NECK.

DR. J. M. CLAYLAND reported the case of a girl, 22 years of age, who came to him in April, 1905, complaining of dizziness and short breathing. Her personal and family history were good. Her head, upper extremities and upper part of her body were cyanotic, while the lower part of the trunk and the lower extremities were normal, showing that there was an obstruction of the superior vena cava.

There was a tumor about the size of a walnut projecting above the middle of the right clavicle. On percussion there was flatness over the sternum and upper ribs, extending three inches to the right of the median line. There was no pulsation or bruit, which excluded aneurism. Being solid, cysts could be excluded. There was no fever, cough, rales or other symptoms of tuberculosis. Enlarged bronchial and cervical glands could be excluded. Her age and the rapidity of development excluded carcinoma. Her personal and family history excluded gumma. The absence of anemia and glandular enlargements excluded Hodgkins disease, leaving sarcoma or lymphadenoma as the only possible diagnosis.

Shortly after this she went to the country where her physician gave her iodide of potash. She returned to the city on August 25th, when the speaker found that a collateral circulation had been established, and she was only cyanotic after

exertion or excitement. There were sibilant and sonorous râles over both lungs, loud, wheezing breathing and hoarse cough, showing pressure on the trachea. She swallowed fluids with difficulty, showing pressure on the œsophagus. She had lost flesh, but had almost no pain. The tumor had enlarged until it showed above the clavicle for about four inches and seemed to have grown through or curled over the top of the clavicle.

She was admitted to St. Mary's Hospital. She soon developed a temperature of  $102\frac{1}{2}$  deg. F., which lasted one week, and was produced by a complicating pulmonary inflammation. It being evident that she would die if nothing were done, the speaker consented to operate, expecting to remove the clavicle with parts of the sternum and upper three ribs. The operation was set for September 14th, but she died in an attack of dyspnoea on the preceding night, much to the speaker's relief, because he believed she would have died on the operating table. No autopsy was allowed, but he believed the growth was a sarcoma.

#### INTESTINAL OBSTRUCTION FOLLOWING OPERATION FOR APPENDICITIS.

DR. A. H. BOGART reported the case of a fifteen-year-old boy, who was brought to the County Hospital with the following history: He was perfectly well until nine days before admission, when, after overeating, he was taken with severe pain in the epigastrium. The following morning the pain became intense and was accompanied by nausea and vomiting; the pain was cramp-like in character and not localized, but bowels were moved by taking castor oil. On the fourth day the pain had decreased greatly, but he now suffered from general abdominal tenderness. The day before admission or eight days after the onset of the disease, the pain returned in the epigastrium, though not so severe as the first attack. On admission he complained of severe pain in the epigastrium, but otherwise felt well. Temperature 99.8, pulse 84. Examination revealed marked tenderness and rigidity over the lower abdomen below the umbilicus on both sides.

*Operation.*—Usual appendicular incision two-and-a-half inches long was made, the muscular fibres were separated after the gridiron method, and an opening into the peritoneum made. A loop of small intestine, which was closely adherent, was accidentally opened, but immediately sutured. A large quantity of pus was then evacuated from the pelvis, and the pus cavity, which seemed to occupy the entire pelvis was washed

out with saline solution and drained. The patient did well after this operation until the seventeenth day when he developed symptoms of intestinal obstruction, namely, nausea, vomiting, constipation, abdominal distention, and the pulse arose to 130.

A medium abdominal incision was made, and the cause of the obstruction was found to be due to numerous adhesions, which had firmly matted the intestines together in various places. These were separated, and an adhesive band, the principle cause of the obstruction, divided between two ligatures. Fearing, however, that there might still be further adhesions or "kinks" which might have been overlooked, a loop of the intestine was brought up into the wound and sutured there, in order that it might be opened later in case the symptoms were not relieved. This, however, was not necessary, as the bowels, which had been obstinately constipated previously to the operation, moved freely during the next twenty-four hours and have continued to do so ever since. The patient still has a small fecal fistula, which is rapidly closing, and his general condition is excellent.

#### RESECTION OF GANGRENOUS GUT; MURPHY BUTTON ANASTOMOSIS.

DR. A. H. BOGART reported the case of a man 50 years old who was brought to the Reception Hospital, Coney Island, September 17th, with a history of having had a hernia for the past fifteen years, during which time he wore a truss. While the truss was off, twenty-four hours before admission, the rupture came down, followed by severe cramp-like pains in the abdomen, and the patient was unable to reduce it. Latterly the pain became continuous, vomiting and a feeling of weakness ensued. On admission the patient was drowsy, skin cold and clammy, but the general condition was fair.

The examination showed a large irreducible scrotal hernia of the left side. The skin of the scrotum and penis were congested and ecchymotic. He was suffering from constant eructations of gas, and his breath had a fecal odor.

**Operation.**—The usual incision was made, and the sac and its contents were found to be strangulated and gangrenous. Two feet of intestine, being too far gone to be returned with safety, were excised, and an end-to-end anastomosis was made with a Murphy button, and the intestine returned. The internal oblique muscle was then sutured to the under surface of Poupart's ligament in the usual manner. The upper portion of the wound was then closed and the lower por-

tion left open for drainage on account of the infected condition of the tissues. The patient left the table in fairly good condition. The temperature arose to 100.6 on the fourth day and the pulse to 108, after which the case pursued a normal course.

On the ninth day the patient passed the Murphy button with a large movement of the bowels, but had had several small movements on the fourth, fifth and sixth days. The external wound is practically healed.

### THE BROOKLYN PATHOLOGICAL SOCIETY.

HENRY G. WEBSTER, M.D., Editor.

459TH REGULAR MEETING, MAY 11, 1905.

The President, J. C. MACVITT, M.D., in the Chair.

REPORT OF CASE: DOUBLE PYONEPHROSIS; SPECIMEN. DR. J. M. MAC EVITT.

Patient was a clerk, 27 years old, with a previous history including syphilis, gonorrhea, pneumonia and typhoid fevers. During six weeks previous to admission he had complained of frequent micturition, especially at night, with occasional passages of blood and pus, but without evidences of cystitis or diabetes. Constipation, progressive weakness and a subnormal temperature are present. Urine alkaline, sp. gr. 1.010, 10 per cent. albumin by volume, much pus, calcium oxalate, epithelium and debris, with mucus and bacteria. Progressive weakness increased, vomiting with diminution of urine appeared, therapeutic measures failed, and he died with suppression of urine seven days after admission to St. Mary's Hospital.

The kidneys were exhibited as fine examples of pyonephrosis.

#### STRANGULATION OF DUODENUM.

DR. J. RICHARD TAYLOR reported at length a case of post operative death due apparently to strangulation high up in the duodenum.

DR. J. O. POLAK saw the autopsy on this case and saw the patient a few minutes before she died. At that time the upper abdomen was very considerably distended. The point that impressed him most at the autopsy was the quantity of fluid and the immense distension of the stomach, the stomach particularly being well down into the pelvis, and yet the lack of continuous vomiting during the period following operation. He rather



thought it was a case with a strictured pylorus or a stricture close to the pyloric opening or a twist there. At the autopsy a great deal of difficulty was experienced in finding the exact point of obstruction, the stomach was so enormously distended, and it seemed to him at that time that the point was higher up than the doctor had suggested as the only possible point for twisting, although his reasons for making that the only possible point are perfectly sound so far as the anatomical conditions are concerned. However, Dr. Polak's impression at the time was that the obstruction was further up in the duodenum than had been suggested.

DR. LENOX said that before performing the autopsy to find the obstruction he thought it was in the stomach or pyloric end, because the intestines were perfectly flat. In tracing up the duodenum he got up as high as possible by throwing the meso-colon upward and to the right. After going as far as he could in that direction, he then drew the meso-colon down to the left and went through the anterior incision, which had been made in the stomach, or the incision in the greater curvature, and with a silk catheter went through the pyloric end. At that time he was unable to go more than two or three inches into the pyloric orifice; the meso-colon was then thrown upward again, and he tried to pull the duodenum out. It then seemed that there were a few thin adhesions, rather glue-like in character, which he separated, and after that he was able by pulling the meso-colon down to get through the pyloric end with the silk catheter, which it had been impossible to do before, showing at the time the adhesions must have been broken up by the extreme traction on the duodenum.

DR. G. McNAUGHTON asked in what way this patient was prepared for operation; in what way the intestinal tract was made so thoroughly empty? One might almost suspect from the doctor's description that there was a constricting band at the time of operation that had been separated perhaps by the very thorough preparation of the patient; in other words, that the obstruction existed at the time of operation. It is very rare that the intestines are seen so flat as to appear like tape in the peritoneal cavity, if there is not some obstruction above that point.

DR. J. C. MACVITT narrated a case which he said was apropos to the one described by Dr. Taylor.

A woman, about 28, neurotic, complained of intense pain over the right ovarian region. A year before the left ovary had been removed in

some other city. She had had two attacks of appendicitis. She suffered so much from this pain that she demanded the entire removal of the uterus and adnexa. He did not promise to do anything, however, except under conditions that would justify such a procedure. On abdominal section the doctor found a large cystic ovary which he removed. The woman now having had both ovaries exsected, he considered it advisable to do a hysterectomy as well, and then he removed the appendix which was filled with pus. The operation lasted about forty minutes. There were no adhesions—everything was perfectly clean.

The first night following the operation there was some little vomiting. On the three days following the vomiting continued at intervals of three to five hours. There was some eructation of gas. On the fourth morning the vomiting became persistent and fecal. He saw her in the afternoon, and the report from the house surgeon was that the vomiting had been persistent, and that she had vomited about one-and-a-half pints of fecal fluid with the characteristic odor. The abdomen was quite distended. The doctor looked upon the case as either obstruction or intestinal paresis. She was brought to the operating room, the incision opened and immediately a mass bulged out looking like a cystic ovarian tumor, which proved to be the stomach. His first impulse was to open the stomach to enable the contents to escape, and also to determine the pathological condition. On second thought he introduced a tube through the esophagus, and two quarts of this fluid was removed through the tube with large quantities of gas, and the stomach resumed its normal position. The intestines were tape-like from the pyloric extremity of the stomach to the cæcum, and they could all be held within the palm of the hand. He then believed there must be some obstruction, and taking up the duodenum at the mid portion he gradually pressed it up inch by inch to the pylorus, and at the second portion of the duodenum it was distended. He then followed it down to the cæcum and found the point of the stump of the appendix clean. Believing he had overlooked some obstruction he went over the small intestines again up to the pylorus and found no constriction. Whether he relieved it in the manipulation or not he did not know, but there certainly was some paralysis of the stomach. Following the operation the stomach was washed out every six hours and rectal enemata were given. At the first washing the same kind of material siphoned up through

the tube, and it required three gallons of water before the stomach contents came away clean. After three days the stomach washings became bilious in character, and from that time until the present there has been no vomiting. The patient left the hospital with the wound closed.

DR. J. R. TAYLOR, in closing, said that as far as Dr. McNaughton's question was concerned, Dr. Lenox could give the outline of the preparation, which was the usual routine cleaning out of the intestinal canal. He did not believe that it had anything to do with the condition present. The stomach was carefully removed by Dr. Lenox. Dr. Taylor measured accurately the distance between the entrance of the bile duct into the duodenum and the site of the twist, so that his statement that it was  $3\frac{1}{2}$  inches was correct by rule. That the patient did not have fecal vomiting was due principally to the fact that there was no fecal matter in the bowel above the point where the twist occurred. Anything below that point could not get back. If it had been possible for a reflexion to take place, it would have probably unfastened the twist, and that would have been on the right side of the fence. The fact that the twist was so far below the entrance of the common bile duct accounts for the possibility of the patient's vomiting the enormous quantity of bile-stained fluid which came up just previous to death.

PAPER: THE INTRACTABLE HEMORRHAGES OF  
ARTERIOSCLEROSIS IN THE UTERUS.

BY DR. R. L. DICKINSON.

*Discussion.*

DR. C. JEWETT said he had been exceedingly interested in the paper, which surely was a very valuable contribution to the subject. The author apologized for the lack of any special knowledge in the pathology of the condition. Dr. Jewett thought he was more especially out of place in that regard, for he had made no histologic study of the subject. *A priori* he should be inclined to attach no very great importance to this condition as a cause of hemorrhages for these reasons: In the first place hemorrhages after fifty years of age are comparatively rare except from fibroid or malignant disease, and yet this is the time when women have more or less sclerosed arteries. The hemorrhages we frequently meet with in young women of course are not included in this category nor accounted for by this condition.

In reference to the hemorrhages at the menopause, here undoubtedly we have the most im-

portant field for this kind of study. In many of these cases no doubt the sclerosed condition of the vessels is either a principal or a complicating factor. At all events papers like this are of great value, because they go to enforce the fact that flooding at this period is always pathological. When every physician has learned this lesson, the opportunity for saving and prolonging life will certainly be very much greater.

With reference to the question in general, Findley recites the reports of Martin and Kiesner and others, two of these gentlemen having reported 13 hysterectomies, in which they found arterio-sclerosis, and attributed the hemorrhage, for which the operation was done, to this condition. A criticism on these reports was that the authors had not made sure of the absence of obstruction in the general circulation. Findley also quotes some cases reported at autopsies, to the extent of a dozen perhaps, eight of them reported by Von Koll in which some other lesions were found, which in every case might be sufficient to account for the hemorrhage. This was true in several other cases, and especially one reported by Findley himself in which there was again there was no hemorrhage from the uterus arteriosclerosis of the uterus, and in which until a thrombus occurred in the uterine artery, so that the question is a mixed one. We must certainly recognize it as a sufficient cause for hemorrhage in some cases and as a complicating cause in others.

In regard to the treatment he did not think there is more to be said. The usual measures, the hot douche perhaps, might bear a word further. With regard to ergot, we all know this is a very perishable drug, and it is possible we are often using a drug which is insufficient. He mentioned this because he thought great care should be used in selecting an effective preparation.

The hot douche is often given inefficiently. It is of little use unless given twice a day, at a temperature of 120 and a quantity of three or four gallons. When given in this fashion it is an efficient means of controlling hemorrhage, in his experience.

With regard to the further measures, steam has been used and acts by cicatrizing and closing the uterus completely. This may be done without any special apparatus. A simple apparatus is a nozzle the shape of a dipper connected with a rubber tube, and this is inserted into the uterus.

With reference to hysterectomy, this, of

course, is the most certain and satisfactory method perhaps for this particular junction at the time of the menopause, when the sacrifice of the uterus is of little moment, and the operation is so simple and safe comparatively by the vaginal route, that it seemed to him we should not hesitate in intractable cases in advising this measure.

DR. G. McNAUGHTON stated that in the consideration of any hemorrhage from the uterus, it is well to remember that we are dealing with an organ that normally transudes blood, and that consideration makes the conclusions all the more difficult. We ought to remember the peculiar arrangement of the blood vessels supplying the uterus, the loop that occurs in the uterine arteries on each side and the unusually long ovarian vein that carries blood from the uterus, that is very liable to become varicosed and very liable to make an obstruction. In considering arteriosclerosis it seemed to him we are talking about a vessel with a very much diminished calibre and yet we have an increased amount of blood. He should like Dr. Dickinson to explain how that hemorrhage occurs if we have a diminished amount of blood in the interior of the uterus? Is it by infarct or how does it occur?

He found that in almost all cases of fibroma we have changes in the blood vessels supplying the uterus. He believed if the arteries were carefully examined in almost all these cases one would find an atheroma or a sclerotic condition of the arteries normally accompanying it. He had had several of these cases that had been reported by the pathologist as due to sclerosis. This winter he had three cases. No other lesion could be found, and he supposed it was reasonable to conclude that that was the cause of it, although it seemed to him it is not proven yet, because in the pathological examination of the uterus there has not been complete examination of the endometrium. There might be small mucous fibroids there that would escape a very much more careful investigation than has been made of the two organs presented here to-night for example.

Dr. McNaughton believed the best operation in case one is unable to stop the hemorrhage is hysterectomy, if the patient will allow it, and he thought it is much safer than some of these other operations. We sometimes forget the systemic cause of hemorrhage of the uterus, such as is found in some diseases of the heart and some diseases of the liver, and in these very conditions we may find a sclerotic condition, yet the cause probably would not be sclerosis directly in the uterus. He supposed that an infarct occurred

where you have an end artery, such as is found in the retina and in the kidney, and that it would be less likely to take place where you have a system of blood vessels so rich in anastomoses as the blood vessels of the uterus, so rich that under normal circumstances injections in one side will fill the arteries of both sides, thus making a full explanation by means of arteriosclerosis a little difficult, in his opinion.

DR. J. O. POLAK stated that the subject of arteriosclerosis is one that we have threshed out before, and while he thought that there is no doubt this is a factor in hemorrhage, yet from the cases he had seen he still believed that while it may be a predisposing cause and is coincident with many of these hemorrhages in the late period of a woman's life, that there has to be some other cause to explain the hemorrhage. In the cases reported, some of them cited by Dr. Jewett and others, reported by various observers, there have been obstructions in the immediate region of the uterus or remote, that would certainly explain the hemorrhage that has been brought about notwithstanding the sclerotic condition of the vessels in the uterus.

In three cases that he had observed of arteriosclerosis the women have been under 40; one woman was 26. She was submitted to a hysterectomy, the pathologist reporting arteriosclerosis. This woman has been repeatedly curetted; she had no adnexal disease, no heart lesion, no hepatic or general condition, such as Dr. McNaughton suggested would possibly cause hemorrhage. This is the only case that he knew of in the few he had had the opportunity to observe, that he could not satisfactorily explain the hemorrhage from any other cause, except the pathological findings.

The question of diagnosis practically comes down to just what the doctor has called attention to, that given a hemorrhage in a patient and excluding fibroid and cancer, it comes to hypertrophic endometritis or a senile endometritis or submucous fibroid or arteriosclerosis. You can exclude the conditions in the endometrium by the curette and microscopical examination, so you come to small fibroids and this.

Dr. Polak then presented a specimen that showed an arteriosclerosis of the uterine arteries, as far as the upper uterine vessels, as well as a complicating fibroid, in the fresh state, and also a condition of the endometrium that probably some of those versed in pathology could determine.

He had considerable experience in the use of

steam several years ago for checking hemorrhage, and he should say that notwithstanding Dr. Dickinson's endorsement, it is not as good as spoken of. The dangers are very considerable. You cannot limit its action, and occasionally you have sudden death from its use. He had seen two cases of this sort reported. The doctor had a case of collapse following the use of steam. He should rather use the method referred to, that of Byrne's dome, and cauterization of the uterus and exploration of the fundus. However, these methods should not be used before the menopause. Hysterectomy is much better. He could not conceive that it was a good principle to close up the uterine cavity by cautery or steam prior to the menopause in view of the relation between menstruation and ovulation, as we understand it at the present time.

DR. R. H. POMEROY did not feel satisfied that arteriosclerosis explained these hemorrhages. It seemed to him more reasonable to suppose that the essential condition is one affecting the veins, and that it has still to be demonstrated whether or not varicosities both of the uterine substance and the broad ligaments and the veins in the vicinity are not responsible for the blood stases in these intractable hemorrhages. If we consider the condition of the lower extremities in the human subject, the varicose veins with their ulcerative processes, we can easily comprehend a state of venous stasis in the endometrium that would account for these hemorrhages. Personally he felt that the matter is decidedly unsettled as to this type of hemorrhage.

In the matter of treatment he had a very strong faith in the use of stypticin as one of the positive drugs that has an effect when used in one-grain doses every two hours.

As to operative treatment he had a feeling in favor of vaginal hysterectomy in cases which cannot tolerate an abdominal operation.

DR. W. B. CHASE said that even after all this careful study of diagnosis, we were left considerably in doubt as to precisely what the methods of Dr. Dickinson are that will lead us to a certain conclusion that we are dealing with arteriosclerosis, and not with some other pathological state, and it is along this line that he would ask a question regarding the possible efficiency of medical treatment in some of these cases prior to attempting more vigorous and radical measures.

It is commonly believed in general arteriosclerosis that it is associated with a pretty general disease of the blood vessels, particularly of the arteries and arterioles, and that the under-

lying cause back of that is disease of the heart or the kidney or liver, particularly cardiac and renal diseases. If in studying these cases there is evidence of arteriosclerosis elsewhere, it would enable us to reach a conclusion, if we were in doubt as to the cause, that that was a prominent factor in it.

If it is true that the bleeding which occurs in arteriosclerosis arises from the fact that the vessels lack such a resiliency, that the drugs we ordinarily use for contracting them have no effect, he thought it will explain the reason why success is not met with in the treatment of these cases. When you use drugs which diminish the calibre of the blood vessels like ergot, stypticin and hydrastis, the question comes up whether in pure arterio-sclerosis the use of these agents is indicated. If in arteriosclerosis we find cardiac hypertrophy and increased blood pressure, what would be the result of giving those drugs which would produce contraction of the blood vessels? It would increase the blood pressure and would be likely to increase the hemorrhage. These remarks are based on theoretical grounds, but if the theory is correct the doctor raised the question whether the nitrites would not be more efficient. Or perhaps in cases where we have marked hypertrophy of the heart, we should look back to the cause which produces the hemorrhage, and possibly diminish blood pressure by the use of nitrites or tincture of aconite. The doctor fancied that when this matter has been worked out by the pathologist and the clinician, if surgical interference is needed in all cases, we will take the short-cut and do a hysterectomy.

DR. C. H. GOODRICH believed there is no doubt but that a small proportion of this class of cases may be allied to the tertiary stage of syphilis. It is true that the majority of syphilitic women suffer from amenorrhea rather than from profuse flowing, but in a certain very few cases some improvement has been observed under the use of the iodide of potash and other anti-syphilitic remedies.

DR. R. L. DICKINSON had no hesitancy in admitting that the explanations do not explain other than in part. He acknowledged that in the beginning by saying that any man who says he has any explanation that will cover all or any of these cases has an india-rubber hypothesis. It must be stretched to include all kinds of impossible things. It is merely that whatever blocking conditions there are which go to further this hemorrhage, there is one very definite pathological change, and that is a change in the blood vessels, and it is a picturesque and extraordinary

change; therefore, we have fixed our attention on this name with all the sidepaths that lead from it. He did not attempt to explain the causes, except that three or four different factors enter into the consideration, the ovarian factor, the change in the vasomotor control, the change in the muscular tissue of the uterus itself plus the change in the vessels. As Findley has so strongly emphasized, and as Dr. Pomeroy drew attention to, there is no doubt that obstruction to the return circulation has a large share in the causation. The venous disturbances and obstruction have a great deal to do with it.

Dr. McNaughton, he said, asked why a vessel with so small a lumen bled. It is a vessel no longer contracting, but of a fragility and rigidity that prevents it from closing when once it has opened. He took it that that is a simple explanation that merely explains.

Concerning the death rate Fuchs in one of the clinics where they treat every metrorrhagia, even small fibroids, with steam, had one death in seventeen from the slough. It was a rapid form of peritonitis. He had once seen a small localized peritonitis in the cul-de-sac. Fuchs brings together all the cases in which the uterus has been examined after the use of steam. There are perhaps six or eight altogether, some cases where the hemorrhage was not arrested and one or two others of like kind. In these cases it was noticeable, with two exceptions, that the areas affected were very uniform. In no case did the slough go dangerously deep. In the cases in which the arrest of hemorrhage was not produced by steaming, the cauterization had not been sufficient, had not been thorough enough, so that we have a considerable number of cases that have been studied afterward. He might say that the treatment by steam applies particularly to the highly neurotic patient of 50, who began menstruating at 11, who had always menorrhagia, who was always debilitated by these crises in addition to her nervous disturbances. Women easily disturbed are not fit subjects for a grave hysterectomy and are readily relieved of their hemorrhages by treating with steam. The operation of itself is no more dangerous than curetting thoroughly and no more alarming to the patient. In that patient the indications are met, but the field is a very limited one, and hysterectomy in most cases, preferably by vagina, fills the indications in the intractable cases.

PRESENTATION OF SPECIMEN: CARCINOMA OF RECTUM.

DR. W. W. BEATTY showed a specimen of car-

cinoma of the rectum removed that afternoon by Dr. James P. Tuttle, of the Polyclinic.

The patient, 42 years old, weighing 182 pounds, thirteen months ago began to have pain in the rectum with discharge of blood at each stool. He consulted several physicians and was treated by a number for piles. He finally came to the hospital and a diagnosis of carcinoma was made. He was admitted May 7th, and the preliminary preparation for operation consisted in a generous diet of nutritious food and a half ounce of magnesium sulphate every morning, and the giving of peroxid enemas 10 per cent twice daily.

He was operated on May 11th. An incision was made on the left fold of the buttock about  $3\frac{1}{2}$  inches below the tip of the coccyx, a right angled incision, the angle being on the left tuberosity. The sacrosciatic ligaments were divided and the sacroiliac synchondrosis was chiselled through and the liberation of the rectum was begun, having previously introduced a sound into the bladder for the purpose of making it secure. There was an abundance of adhesions, and it was with difficulty the rectum was liberated. The middle hemorrhoidal and the lateral sacral arteries were ligated. The rectum was dissected out for six inches and above the mass a tape was put around the rectum and tied very slowly, though the rectum was not divided, but the peritoneal cavity was close. It was very fortunate in this case that the doctor was able to dissect up the peritoneum without destroying it until the rectum had been dissected down below the point of involvement. The rectum was then divided and the everted edges of the anus were sutured. A tube was inserted into the rectum. Fortunately the bladder was not involved and was intact after the operation. The wound was closed by bringing up the mesentery and suturing it to the lower surface of the flap and closing with deep catgut sutures and silkworm gut retention sutures. The cavity was packed with iodoform gauze for drainage.

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## MEDICAL SOCIETY OF THE COUNTY OF KINGS.

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### SECTION ON PEDIATRICS.

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GEO. F. LITTLE, M.D., Chairman.

JOHN R. STIVERS, M.D., Editor.

The September meeting was held on Wednesday night, the 27th, at 1313 Bedford Avenue. Dr. H. N. Read reported an epidemic of whoop-

ing-cough that had occurred at the Sheltering Arms Nursery during the summer. In all there were 46 cases and all recovered except two, those two dying from broncho-pneumonia. Many of the cases had been very severe. The treatment was symptomatic and general rather than specific. Many of the cases received no medication. All of the patients were kept out of doors as much as possible.

Dr. Jerome Walker reported an epidemic of 60 cases that occurred at Howard Colored Orphan Asylum. There were no deaths. No specific treatment was employed. Dr. Walker found that a mixture of Jamaica rum and honey in the proportion of four parts of the former to one of the latter when given rather freely apparently gave a good deal of relief from the severe paroxysms. Dr. Benj. Edson endorsed the rum and honey mixture and also believed that good results were obtained from the use of small doses of antipyrine. The doctor had long used the following formula for inhalation:  $\mathcal{R}$  Creosote  $\mathfrak{z}$  iii, oil eucalyptol  $\mathfrak{z}$   $\frac{1}{14}$ , chloroform  $\mathfrak{z}$  i, oil terebinth q. s. to make  $\mathfrak{z}$  iii. Of this, 15 drops are placed on a hot sponge and inhaled. Dr. Wm. Hutchinson spoke of the good effects of the vapo-cresoline lamp. It was an outcome of the old gas-house treatment. The vapo-cresoline is a mixture of three cresols obtained by distillation.

Dr. C. H. Goodrich said he had obtained good results from the use of fluoroformal, also from calcium sulphide.

Dr. E. H. Bartley recommended tincture of belladonna given in doses sufficient to obtain the physiological effect. Two doses are given in twenty-four hours. Amyl nitrite will sometimes give good results. Dr. Bartley had used it in a child two weeks old.

The following case was reported by Dr. Geo. F. Little:

#### A CASE OF ACUTE MEMBRANOUS ILEO-COLITIS.

C. W., æt 3 years, had been in good health until August 29th, when, according to history, there were indefinite pains and apparently some rise of temperature. The following forenoon there were some four movements, which, by the mother's description, apparently consisted of mucus and blood. Pain in the abdomen was more marked on the second day. The child vomited once.

I saw the case on August 31; there was a rectal temperature of 98.4, a pulse of 140, respiration 28. There was considerable abdominal pain which was not constant. There had been no further action of the bowels for twenty-four

hours. Examination gave negative results as regards the abdomen and rectum. The chest was clear. Calomel 1-10 gr. was ordered every hour for six doses, followed by 3  $\frac{iii}{iii}$  of castor oil. This was non-effective; a high ss. enema met with no result. The pains during the night assumed a distinctly "colicky" character. While the nature of the stools and the paroxysmal pains would suggest a dysentery, yet the same symptoms would point to an intestinal obstruction (intussusception) especially when considered with the absence of fever and the failure of the bowels to act. I therefore watched the abdomen and rectum very closely for a tumor. Citrate of magnesia in divided doses,  $\mathfrak{z}$   $\frac{1}{4}$  every half hour, was administered the following forenoon and a movement secured, followed by several others. The character of this first movement established the diagnosis. There was much mucus and very many pieces of membrane in a fluid stool, with enough fecal matter to color.

Such movements, lacking the fecal matter, continued, three to five a day for a week. During this time the rectal temperature did not show above 100° F., the pulse remained between 128 and 138; there was no marked prostration; tenesmus was slight; there were no cerebral symptoms.

The amount of pseudo-membrane excreted in the stools was very large, especially following irrigation, which was done twice in the twenty-four hours. The membrane was not thrown off in shreds or flakes alone, but mainly in pieces of considerable size, the largest noted being 1  $\frac{3}{4}$  x  $\frac{3}{4}$  inches.

Gradual improvement in the character of the stools was noted from the tenth day of the disease, and constipation shortly succeeded the diarrhea. The child left my care, well advanced in convalescence, three weeks after the initial symptoms.

As regards etiology, this case appeared in one of the most healthful of our summer resorts, with ideal surroundings, and after residence of some weeks, no other dysenteric cases reported.

As for treatment the patient was at once placed upon concentrated liquid nourishment, the colon was irrigated twice a day with normal saline solution, one quart being injected. The hydrated oxide, or milk of bismuth, was given in drachm doses every two hours. In the stage of improvement, as shown by the stools, a mild astringent—ext. hamamelis fl.  $\mathfrak{z}$   $\frac{ss}{ss}$  in Aquæ O  $\frac{ii}{ii}$  was employed for irrigation. Salol gr.  $\frac{ii}{ii}$

every four hours replaced the bismuth. Olive oil 3  $\frac{ii}{ii}$  disguised by orange juice was ordered twice a day during convalescence.

In the intestinal diseases of infancy and childhood there is certainly no form more grave than that of an acute ileo-colitis of the membranous type. This case which I have the pleasure of bringing to your attention is unusually interesting for two reasons. First, that in a local process of such intensity constitutional symptoms practically must be of marked severity. This case, by exception, perhaps, proves the rule. Second, that the quantity of pseudo-membrane expelled, marked especially by the size of the individual fragments, is uncommon among children.

In closing, it may not be amiss to say that I fully believe where the initial symptoms in any case show only "colicky" pains and stools of mucus and blood, that we should be as much on guard for intestinal obstruction as for dysentery.

#### PROGRESS IN OTOLOGY.

J. E. SHEPPARD, M.D., AND S. H. LUTZ, M.D.

##### DISEASES OF THE MIDDLE EAR IN MEASLES.

Nadoleczny (*Jahrbuch der Kinderheilkunde*, Bd. 60. Observations cover 100 children, seen during an epidemic of measles in Munich in 1903. The writer has drawn his deductions with the greatest reserve so that his statistical work has more than ordinary value. He says that they relate, of course, only to the one epidemic; he compares his statistics with those of others. The children examined by him—52 boys and 48 girls—were between 6 months and 10 years old (one boy four months old). He found in 13.1 per cent. of the measles cases purulent middle-ear inflammation and in 46.4 per cent. non-suppurative inflammation, i. e., in 59.5 per cent. of the total cases of measles there was acute inflammatory ear disease, while "in some of the remaining 40.5 per cent there were evidences of moderate subacute inflammation." He sums up as follows: 1. Acute middle-ear catarrh, and acute exudative or perforative, i. e., suppurative, middle-ear inflammations are the most frequent complications of measles. 2. They originate principally in the first two weeks after the eruption, sometimes already in the prodromal stage, less often, first at the period of desquamation. 3. It is, therefore, wrong to count middle-ear diseases among the sequelæ of measles; they

are rather mostly primary, less often secondary. 4. Their development is favored, or perhaps even caused, by diseases of the upper air passages and the lungs, wherefore, as in other infectious diseases, so here must the acute coryza be treated carefully but cautiously (without washing out the nose). 5. The inflammatory processes set in as a rule with evident subjective symptoms, and the objective appearances of otitis media acuta may be seen. 6. They are in general benign, and tend to spontaneous recovery; at the same time serious affections with mastoid caries and other complications, even deaf-mutism, following extension to inner ear, are not impossible. 7. By early prophylaxis one may often succeed in preventing the development of exudate in the tympanic cavity. 8. A timely and appropriate therapy brings about in most cases a resorption of the exudate. If, however, a perforation of the membrane has occurred, still complete healing of the otitis media suppurativa almost always results on an average in three weeks. 9. Recurrence of the middle-ear suppuration in measles is rare. 10. Untreated or neglected cases on the contrary fail to heal, as is shown by the statistics of chronic middle-ear suppuration, or else they leave behind considerable destruction in the middle ear and corresponding deafness.

##### MIDDLE-EAR COMPLICATIONS OF THE ACUTE EXANTHEMATA.

Weiss (*Wien. Med. Wochens.*) recommends, and Sugár has followed the recommendation with success, pledgets soaked with  $\frac{1}{2}$  per cent. solution of silver nitrate and placed in the anterior nares, whence by pressure on the nasal alæ it flows backward. Weiss has seen the frequency of otitis in measles reduced from 27.7 per cent. to 6.6 per cent., and Sugár down to 7 per cent.

In *mumps* there seems a benign form of involvement of the labyrinth which recovers after a short time; another form in which deafness is complete and permanent.

According to Launois in a communication to the French Otol. Soc. in *chicken pox*, outside of the location of the exanthem in the external auditory canal and upon the auricle, suppurative middle-ear inflammation sometimes occurs. Irving Townsend reports a case of *gonorrheal* middle-ear suppuration, numerous gonococci being found in the middle-ear secretion.

At the front of the infectious diseases marches, naturally, according to the newer publications,



*scarlatina*, both as regards its intensity and the extent of the destruction caused by the disease virus. Scheibe reports to the German Otol. Soc. a case of rapid destruction from acute scarlatinal otitis; death in the fifth week of the disease, and in the right ear, which had been involved three weeks, the membrana tympani and tympanic muscles destroyed, and the ossicles necrotic, with a normal labyrinth but complete deafness. Bezold noted the prognostic importance of fœtor of the secretion in the beginning of the disease. Herzfeld (*Berlin. Klin. Woch.*) reports double labyrinth necrosis with double facial and acusticus paralysis from scarlatina. On the fourth day of the disease bilateral deafness and facial paralysis. Herrman (*Münch. Med. Woch.*) presents two types of scarlatinal ear complications; one tending through a primary bacterial process in the bone to a rapid necrosis of large portions of the temporal bone, and the other an otitis leading to a suppurative process in the antrum, which latter often runs a benign course.

Gaessler (*Zeits. f. Ohrenh.*) has examined a series of cases which lead him to believe that in at least many of the cases the ear trouble, instead of being an extension from the naso-pharynx, is an essential part of the general infection. Ladour, in a communication to the Paris Oto-Laryngological Soc. reports examining regularly for ear complications every scarlatina case in a large children's hospital and found only 11 cases of severe suppurative otitis, and of these only two with the characteristic extension and rapid destruction. The severe cases appeared simultaneously with the eruptive fever.

Treitel (*Monatsch. f. Ohrenh.*) publishes a case of uræmia with deafness as of interest in the pathology of scarlatinal ear affections; bilateral already-healed middle-ear inflammation after scarlatina; sudden deafness, synchronous with the occurrence of convulsions; simultaneous blindness. The explanation of the deafness as of uræmic origin is very plausible. Hearing returned after five days. (Would not a labyrinthine effusion be an equally good, or better, explanation? Rev.)

Eitelberg reports a remarkable case of spontaneous return of hearing after  $1\frac{3}{4}$  years of post-scarlatinal complete deafness. Gerber (*Arch. f. Ohrenh.*) again points out how scarlatina is by far the most frequent cause of labyrinth necrosis (55 per cent.). The same statistics show measles as the cause in 11 per cent.

H. Jarecky has an article in the *N. Y. Medical Record* for February 25, 1905, on "Ear Complica-

tions of Scarlet Fever and their Treatment." In considering the etiology of these complications Jarecky concludes that they are due to one of the following causes: 1. Toxines of the disease; 2. Extension from the throat; or, 3. General weakness. He directs attention to the necessity for removing hypertrophied tonsils, adenoids and nasal obstructions in children so that when subjected to the strain of scarlet fever they may avoid the principal method of infection. Repeated examinations of the ears should be made on account of the uncertainty of the symptoms. For the swelling and itching of the external ear and canal a mild dusting-powder should be used. In middle-ear disease the pain is best treated with hot water irrigations of the canal, and the hot-water bag to the ear. The local abstraction of blood may control the trouble. The nose and throat, and especially the Eustachian tube-mouths should be kept bare of mucus to allow drainage. A 10 per cent. to 12 per cent. solution of carbolic acid in glycerine applied directly to the membrana tympani frequently gives satisfactory results. Owing to the rapidity with which destruction of aural tissue and extension of infection take place a paracentesis should be performed as soon as the tympanic cavity shows signs of exudation, and the tympanic membrane of bulging. There must be sufficient drainage, and frequent irrigation with 1:5000 bichloride solution must be carried out. Toward the end of the acute stage inflation by means of the Politzer bag or the Eustachian catheter helps to get rid of pus and to prevent adhesions. Other complications should receive appropriate treatment. If the mastoid is involved Jarecky applies an ice-bag or Leiter's coil for twenty-four hours, with rest in bed, light diet, cathartics, and frequent hot irrigation of the canal. There must be a free opening in the tympanic membrane. If the symptoms continue, he urges operation. Opiates, leeching or iodine applications over the mastoid are contraindicated, as they interfere with a proper examination for tenderness.

#### "INVOLVEMENT OF THE EAR IN THE ACUTE INFECTIOUS DISEASES."

Under this heading Dr. Franz Kobrak, in Breslau, reviews some recent, mostly German, literature on the subject. He says: The study of the ear in these diseases is difficult because general clinicians and specialists do not work completely together. The aurist enters the case so late that observation, especially of the initial stages, must remain incomplete. Exact clinical observation

of the local process from the very beginning, already at a time when only the general disease is manifest, and signs of the local process are not yet evident, will teach us to properly understand the anatomical appearances which we possess of these processes in increasing completeness." Of the clinical and pathologico-anatomical behavior of the ear in genuine diphtheria, Lewin (*Arch. f. Ohrenh.*, Bd. 52 & 53) found that the middle-ear processes occurring in naso-pharyngeal diphtheria very rarely show a tendency to grow worse or extend; but on the other hand recover very slowly and late. The rare cases of pathologically pure middle-ear diphtheria with genuine naso-pharyngeal diphtheria run a severe course. The external canal also takes part not so very rarely in the specific disease even with intact membrana tympani. The frequency of ear complications in diphtheria is disputed by many authors. Spangenburg agrees with Lewin that the ear is diseased oftener than is generally believed. Among 1,000 diphtheria cases Spangenburg met with a pathological condition of the ear in 24.3 per cent. Curious cases are recorded where, with only the slightest evidences of inflammation, bacteriological investigation proved the specific nature of the ear suppuration. An important completion of the clinical data is presented by Lewin in his pathologico-anatomical findings. Macroscopically the case presents as a benign mucous or serous middle-ear inflammation, or in more severe cases, which perhaps come to autopsy, as a violent purulent inflammation. *Histologically* Lewin holds the following changes as characteristic; the blood vessels of the internal auditory canal show a complete stasis, so that in some cases the rami of the cochlea and vestibule are traversed by a zone of blood-filled vessels. Along with the thrombosis are seen hemorrhages, larger in the periosteum of the meatus and epineurium, smaller within the nerve stem, between and in the bundles. The nerve substance shows in some cases great degeneration. Even more frequently than the hearing nerve were the nerve cells of Scarpa's ganglion and the spiral ganglion changed. According to Lewin the acusticus nerve showed itself as the most frequently and most severely affected part of the organ of hearing. *Etiologically* Lewin is of the opinion that the diphtheria otitides are to be considered in the great majority of cases as due to the local emanation of the diphtheria poison circulating in the blood, and not to a direct extension through the tube of the naso-pharyngeal process.

#### NEURITIS ACUSTICA FROM INFLUENZA.

Alt (Austrian Otol. Soc.) describes a neuritis acustica from influenza. In the second day of the disease facial paralysis occurred, and on the third day tinnitus, severe dizziness and deafness on the side of the facial paralysis. Eye-grounds normal. The hearing was that of a labyrinth affection, high notes being better heard than low. (This statement must be a typesetter's error overlooked by the proofreader.—J. E. S.) Sugár (*Arch. f. Ohrenh.*, Bd. 49), describes for the cerebral form of influenza a special ear complication, viz., suddenly occurring deafness, great dizziness, and pain in the temporal region. He accepts either hemorrhage into the fourth ventricle, in the sense of a poli-encephalitis hemorrhagica superior acuta, or rather, and to this view he inclines, a hemorrhage into the labyrinth, especially in the preponderating, one-sided, ear affections. Influenza otitis has shown various manifestations; Knapp reports a stubborn, repeatedly recurring and very profuse suppuration; Scheibe, a bulb thrombosis, showing that the influenza bacillus is, dangerous, being prone to cause necrosis and to attack blood vessels. Goldstein describes a special symptom—complex, intense, deep-seated pain in the ear, radiating to the temporal region, rapid swelling of the mastoid region, profuse serous secretion from the tympanic cavity, along with dizziness and persisting hemicrania.

#### GENERAL PRACTITIONER AND SPECIALIST.

Concerning the importance of the working together of the general physician and the specialist it is clearly shown by the investigations of Henry Fruitnight (*Med. News*), concerning "the otitis of the exanthemata from the standpoint of the pediatricist and the practicing physician." Among 5,000 cases of acute exanthemata Fruitnight saw otitis media the most frequent (in one-third of the cases) of the fatal complications. The frequency of the complication bears no direct proportion to the severity of the infection. He has often made milder the complication and thereby retained the hearing by treating the disease immediately upon its first appearance.

#### EARACHE.

Francis P. Emerson (*Boston Med. & Surg. Journ.*) on "Earache, or Cases of Early Involvement of the Middle Ear, Usually Neglected," reports four cases of ear trouble due to small amounts of adenoids in children who did not show the typical adenoid facies, and in whom

mouth-breathing was not a prominent factor. Removal of the adenoids improved the general condition and stopped the earaches. He thinks that a child whose upper respiratory tract is normal rarely suffers from bronchitis or head-colds. (The experience of most aurists would certainly amply confirm this observation.—J. E. S.)

T. J. Entbrick (*Med. Jour.*) reports a case of a child aged 13 months with acute naso-pharyngitis; a catarrhal otitis media occurred, and as a result of this an enteritis which improved immediately after paracentesis. Again, later, intestinal disturbances improved each time that the ears were treated.

#### OTITIS OF NURSINGS.

Haike (Berlin) contributes an article to the 76th Congress of German Naturalists and Physicians on the Pathology of the Otitis of Nursings. He showed a specimen from a two-weeks' old nursing, dead of sepsis, with a fibrinous bile-colored exudate which filled the middle-ear cavity. He also showed specimens of three cases of tuberculosis of the ear in nurslings (8 weeks, 3 months, and 8 months). The infecting material came from the saliva of tubercular mothers (kissing, moistening of nipple, etc.).

#### TUBERCULOSIS OF THE MASTOID PROCESS IN CHILDREN.

Henrici (*Zeits. f. Ohrenh.*, Bd. 48) says among other things: "Since tubercular mastoiditis in children runs its course almost entirely under the picture of an ordinary acute mastoiditis, and since also the operative findings are not always clear, it is probable that many cases of tubercular mastoiditis are not recognized as such, all the more because the course and healing do not differ much from a simple purulent mastoiditis. Facial paralysis, which speaks for a far advanced process, is rare." "Mastoid process tuberculosis in children—it makes up one-fifth of all the children's mastoid abscesses—is mostly a purely local disease, and the therapy, mostly through simple chiseling, easily accomplished; sure diagnosis is as a rule possible through microscopic examination." "Tuberculosis of the third tonsil has no special significance for the origin of children's mastoid tuberculosis."

#### "THE RELATION OF MIDDLE-EAR SUPPURATION TO EPIDEMIC AND TUBERCULAR MENINGITIS."

Alt (Austrian Otol. Soc.). To the aurist difficulty at times develops if he has to determine at the bedside as to a meningitis or some intracranial disease, whether or not it is the result of

a coexisting otitis. When we speak of otitic meningitis we always think of a diffuse purulent meningitis. It is, however, certain that the epidemic cerebrospinal meningitis, as well as the tubercular form, may have an otitic origin. In tubercular individuals chronic suppurative middle ears are frequent. The meningeal infection arises not from the ear, but by way of the blood or lymph channels, from the lungs or some other tubercular focus. In such a case the otitis has only the significance of a chance complication. It is further a known fact that in epidemic cerebrospinal meningitis very 'frequently' suppurative inflammations occur in the labyrinth with resultant deafness, and that these inflammations occasionally extend to the middle ear. The origin of the suppurative labyrinth inflammation is due to extension along the perineurium of the auditory nerve; more frequently, however, to the entrance of the purulent meningeal exudate through the aqueductus cochleæ (Politzer). Contradictory communications are presented by Schwabach, Brieger, Gradenigo, Heller, and Haberman. Severe hemorrhagic otitis may result further in a patient suffering from tubercular epidemic meningitis, through an infection of the tympanic cavity from inspissated secretion that collects in the naso-pharynx of such an unconscious patient and yet have nothing to do with the primary disease carriers.

#### "CONCERNING THE ETIOLOGY AND PATHOLOGY OF EPIDEMIC CEREBRO-SPINAL MENINGITIS.

Albrecht and Ghon (from Weichselbaum's Institute in Vienna) come to the conclusion that the nasal and nasal-accessory cavities form the point of entrance of the germ of cerebrospinal meningitis. Oftenest they found on section inflammatory changes in the nose, naso-pharynx and bronchi, and very frequently could be demonstrated in the corresponding secretion gram-negative gonococcus-like forms as diplococci and tetrads, oftenest in the acute cases. Works are then mentioned in which the ear is considered as the entrance point of infection. Hitherto insufficient consideration has been given to the ear as the point of entrance or intermediary of the infection of epidemic cerebrospinal meningitis. So long as severe meningitic evidences exist, the patients are unable to call the physician's attention to the ear. The aurist is first consulted when a profuse otorrhœa has occurred, or when, after recovery, the patients complain of ear trouble. The result is that the otitis is either entirely overlooked, or is considered to have orig-

inated during the course of the meningitis. At the autopsy there has seemed no cause to investigate the ear findings, the attention not having been called to an affection of the ear, while now it is no longer neglected to inspect the nasopharynx, and the characteristic germ may almost always be demonstrated in the secretion.

An otitic tubercular infection of the meninges may, according to Körner, arise in three ways: by contact infection, by way of the lymphatics, and by means of embolism, when the wall of the carotid in the temporal bone is the seat of tuberculosis, as described by Haberman. A special interest attaches to those cases in which, as the result of an acute middle-ear inflammation with temporary, or absent, lung changes, a tubercular meningitis develops. What is characteristic of the disease process consists in the fact that the otitis set in under the picture of a fresh intense inflammation, in fact, bacteriologically streptococcus can mostly be found, and there follows it a tubercular meningeal inflammation. The hyperæmia of an acute middle-ear inflammation from varied bacterial causes can in patients with latent tuberculosis perhaps lead to a tubercular infection of the meninges.

#### "A NEW SYMPTOM OF BASILAR MENINGITIS."

G. W. Squires (*N. Y. Med. Record*). The symptom is constant and consists of a rhythmic dilatation and contraction of the pupils. It is produced as follows: The child's head is taken between the physician's knees, face upward, the body held by an attendant. Then take head in hands and make gradually-increasing strong extension on the back of the neck. The pupils during this gradually dilate, more as extension is greater. When the head is bent forward on the chest forcibly, the pupils contract greatly, and this phenomenon repeats itself each time. The same is to be referred to mechanical or hydrostatic influence by increase of pressure on the nerve centers.

#### IRREGULARITIES OF THE LATERAL SINUS. . .

G. Mariotti in *La Clinica Chirurgica*, as quoted by Gradenigo, sums up his work as follows: In 75 skulls examined, the lateral sinus was larger on right side in 37 cases, larger on the left side in 20 cases, and equal in 18 cases. In 78 of 146 temporal bones the lateral sinus was in the middle third of the mastoid, in 52 in the anterior third, and in 35 in posterior third. The pars sigmoidea is nearly always more anterior and nearer the surface on

the right side than on the left, particularly in small mastoids.

#### THE IMPORTANCE OF LUMBAR-PUNCTURE IN OTOLGY.

Grünert in the *Münchener Medizinische Wochenschrift*, lumbar-puncture has been used systematically in suspected meningitis cases in his clinic at Halle since 1896 in 200 cases. It is useful in showing when the spinal fluid is clear that there is no meningitis, and no time is lost in microscopic or pathological laboratory research. The mastoid operation follows at once. He does not think there is any value at all in lumbar-puncture as a therapeutic measure. It is used only as a diagnostic measure, and if the fluid is at all turbid, nothing more is done because he argues that a meningitis in progress cannot be helped. Out of 200 cases of lumbar-puncture he lost two from puncture one from, he thinks, the anesthesia (which is not given since then at Halle until after lumbar-puncture), and one from the withdrawal of too much spinal fluid.

#### SUPPURATIONS IN THE TEMPORAL BONE AND THEIR PRACTICAL RELATION TO LIFE INSURANCE.

At the Portland, Oregon, meeting of Life Insurance Examining Surgeons, July 10, 1905, Dr. John F. Barnhill, of Indianapolis, read a paper with the above title. Among other things he advised very close questioning of the patient and a very thorough painstaking and accurate examination of the middle ear and its accessory cavities. He concluded with the following remark: "In the present highly developed state of the ologic science there are but few discharging ears that cannot be cured, and the patient therefore can be made a perfectly safe risk in so far as the ears are concerned."

#### DEFECTIVE HEARING IN SCHOOL CHILDREN.

Compaired, *Siglio Medico*, Madrid, says in his own experience out of 1,366 cases of deafness between 10 and 16, 16.55 per cent. were due to affections of outer ear, which were easily cured by simple measures. In 18.89 per cent. deafness was due to obstructions which were readily removed. In 33.79 per cent. infectious disease caused the deafness, and this proportion could have been greatly lessened if the ear troubles had been properly treated. Adenoids were present in nearly all of these cases of deafness following infectious disease. He declares that fully 20 per cent. of school children suffer from ear affection. He advises frequent and early attention to the ears in all children.

## SYMPTOMS OF CEREBELLAR TUMOR.

In the *Bristol Medico-Chirurgical Journal* for June, Clarke lays emphasis on two symptoms which are often overlooked as symptoms of cerebellar tumor. These are deafness and tremor. Deafness and very often tinnitus precede by many months a tumor on the same side of the cerebellum as the deafness.

## ARTIFICIAL HYPEREMIA IN TREATMENT OF OTITIS.

In the *Berliner Klinische Wochenschrift* in a July number there is an account of 19 cases of acute otitis media treated by a rubber band around the neck in order to increase the hyperemia in the head. This band was left on 22 hours. The result was not very brilliant as 8 cases had to be operated for mastoiditis later on. One case of mastoiditis was cured by this method.

## TREATMENT OF CHRONIC SUPPURATIVE OTITIS MEDIA.

In *American Medicine* for August 19, Hui-zinga advised the use of compressed air at 30 pounds pressure to dilate and clean the Eustachian tube where there is a large perforation in the drum. This air is medicated with menthol iodine and creosote, and when the high pressure has been allowed to pass through a catheter to the Eustachian tube and middle ear for about 20 minutes every day he claims good results.

## DEAF MUTISM AND PTOMAIN POISONING.

In *Medical Record*, August 19, 1905, W. S. Bryant relates two cases in which difficulty in walking, deafness and speech disorders were apparently caused by food poisoning.

## PROGRESS IN OBSTETRICS AND GYNECOLOGY.

BY CHAS. JEWETT, M.D.

## INTRAPERITONEAL RUPTURE OF THE BLADDER DURING LABOR.

T. R. Grimsdale (*Jnl. Obstet. and Gyn. of the British Empire*, May, 1905). The patient was a primigravida. She was delivered by forceps after being about four days in labor. She had passed no urine for two days before delivery. The abdomen was somewhat distended. On the following morning the patient was found in collapse, the abdomen still more distended, and below the umbilicus it was dull on percussion and was fluctuant. The face was pale and anxious, the

respiration 36 and almost wholly thoracic. Ten ounces of bloody urine were obtained by catheter. Later the catheter which had been left in the bladder delivered clear urine. The woman was evidently suffering from rupture of the bladder.

She was removed to a hospital and the abdomen opened. A large quantity of blood-stained urine escaped on incision of the peritoneum. An opening was found in the bladder large enough to admit a closed Spencer Wells forceps. The tissues around the opening were bruised. The bruised tissue was excised and the rent sutured. The peritoneum was cleansed and the abdomen closed. Recovery was uneventful.

The rupture was believed to have occurred during the first stage of labor. A point of special interest in the case was the entire absence of inflammation of the peritoneum.

## CÆSAREAN HYSTERECTOMY FOR CONCEALED ACCIDENTAL HEMORRHAGE.

J. H. Targelt (*Jnl. Obstet. and Gyn. of the British Empire*, May, 1905), reports the following case: The woman was 34 years of age, and a multigravida at the sixth month of gestation. Antepartal hemorrhage had occurred in two preceding pregnancies. A few hours before admission to the hospital the patient was seized with a sharp pain in the abdomen and soon became faint. The os uteri admitted two fingers and some external hemorrhage occurred. Opium was given, the membranes ruptured and a leg brought down. A little later the patient became pulseless. She was removed to the hospital after firmly tamponing the vagina. The woman was now very pale, the pulse 140, soft and compressible, the uterus tense, hard, tender and reaching to the ensiform. The cervix was undilatable. The uterus was evidently becoming larger. Immediate delivery by ordinary means was deemed impracticable. While delivery by vaginal Cæsarean section would have easily been possible the operator was deterred by the danger of bleeding from the incision as well as of post partal hemorrhage in the paralyzed condition of the uterine muscle. It was quickly decided therefore to perform Cæsarean hysterectomy. The patient recovered slowly with some fever due to infection before admission to the hospital. Convalescence was complicated by a small parametric abscess and by double phlegmasia alba dolens. While conservative Cæsarean section or vaginal Cæsarean section might have been successful it was believed that the danger from infection would have been much greater had the uterus been left.

## TREATMENT OF OVARIAN CYSTS COMPLICATING PREGNANCY AND LABOR.

Dührssen (*Deutsch. Med. Woch.*) advocates operation by the vagina for most cases of ovarian cyst likely to complicate delivery. He has resorted to this method with satisfaction in several cases. He proceeds as follows: A posterior, median, longitudinal, vaginal incision is made without drawing down the cervix. The margins of the wound are secured by four compression forceps. After opening the cul-de-sac, a Doyen's mirror is passed through the wound, illuminating the lower pole of the cyst. The cyst is punctured and drained. It is then brought down through the vagina by the aid of catch forceps and the pedicle securely ligated. The stump is allowed to recede and the wound is nearly closed in layers, a small gauze drain being left. Dührssen grants that the pedicle may not be accessible or may tear. In such an emergency abdominal section may be performed. The latter route must be elected primarily in infected cysts. Cysts which do not prolapse below the presenting fetal pole do not require operation during pregnancy, unless growing rapidly or causing symptoms. Myomata he deals with in like manner.

[In the reviewer's experience ovariectomy by the vagina during pregnancy is more frequently followed by abortion than is the abdominal operation. This is doubtless due to the greater irritation sustained by the nerve plexuses which control uterine contractions owing to the strong traction frequently required to reach the pedicle in colpotomy.]

## PYONÉPHROSIS COMPLICATING PREGNANCY.

Fournier (*L' Obstétrique*, March, 1905), publishes two cases. In the first ventro-fixation of the uterus had been performed for troublesome retro-displacement. The right ureter was compressed and both ureter and kidney infected. There were high temperature and pyuria. Premature birth occurred at the seventh month. Nephrotomy for drainage was declined.

In the second case severe pyelo-nephritis developed. The temperature was very high and streptococci were found in the urine. The kidney, which was much enlarged, was incised and drained. Immediate subsidence of the acute symptoms followed. The woman was delivered near term of a healthy child. Fournier justly observes that in pregnancy complicated with pus kidney drainage and not induction of labor is the proper treatment.

## REPEATED TUBAL AND COINCIDENT UTERO-GESTATION.

Scheffer (*Monatsschrift f. Geb. u. Gyn.*, April, 1905). The woman had skipped one menstrual period, the last menses having occurred five weeks before examination. Left tubal gestation was diagnosed. Tubal abortion followed a few days later. One month after the termination of the ectopic pregnancy the left tube was removed. At operation the uterus was found gravid, but the ovum was expelled on the twelfth day thereafter. Recovery was otherwise uninterrupted.

Two years before, a right salpingectomy had been performed for tubal pregnancy. In the discussion of this case before a society the question was raised whether the sound tube should be removed when operating for extra-uterine pregnancy. This was generally condemned for the reason that a subsequent pregnancy was much more likely to occur in the uterus than in the remaining tube. More than 45 cases were cited in which utero-gestation had followed the removal of one tube for Fallopian pregnancy.

A three-night performance for the benefit of the German Hospital was given at the Majestic Theatre October 31st, November 1st and 2d. Last year the Aid Society of the German Hospital Association, under the auspices of which as on this occasion, a similar performance was given, turned over \$5,000 to the institution. It is expected that the returns this year will considerably exceed that amount.

The Sanitarium for Hebrew Children at Rockaway Park plans to add a large addition to its present building. The work doing by this institution for the poor children of the lower East side in Manhattan makes a contemplation of this step necessary; \$25,000 will be raised by April 1, 1906, of which \$10,000 has been promised by Mr. Jacob Schiff.

Mr. Albert T. Huntington has been elected President of the Associated Libraries of Long Island.

For the information of those who desire to direct patients to dealers from whom certified milk may be ordered the following list is appended:

Alexander Campbell Milk Company, 802 Fulton Street; H. S. Chardavoyne, 406 Court Street; Diamond Dairy Company, Carlton Avenue and Pacific Street; W. M. Evans, 250 Hewes Street and 265 Reid Avenue; Isaac W. Rushmore, 100 Atlantic Avenue; Taylor-Plate Milk Company, 202 Fifth Avenue; The Empire State Dairy Milk Company, 502 Broadway.

# Brooklyn Medical Journal.

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Associate Editors.

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BROOKLYN-NEW YORK, NOVEMBER, 1905.

## VENTILATION OF BROOKLYN SUBWAYS.

It is unfortunate for the subway now in course of construction in this borough that a solution of the problem of the ventilation of the subway now in operation in New York has not yet been reached. It is unfortunate because, in the present state of knowledge of the subject, it is hardly to be expected that the introduction of a system of ventilation of the structure now building can at the present time be undertaken, since without any preceding experiments in successful ventilation of subways, no practical system is available. This need may be met in time for introduction into the newer structure in course of building provided the application of a system of ventilation to the subway in operation is not too long delayed.

The need for some additional oxygenation of the air of the old subway was abundantly demonstrated last summer, and the call for it will be more loudly heard on each recurrence of our heated season until it is heeded. A system must ultimately be installed. Could this be begun in Brooklyn during the course of construction of the subway now building it might be added at little or no extra cost; while on the other hand, the introduction of flues and air shafts, or whatever mechanical devices are employed in a structure of such solidity as these viaducts must necessarily be, must be attended by large additional cost, which may of itself delay for a time their introduction when the subway is once otherwise completed.

Those who had occasion to travel in the Manhattan subway during the past summer will not soon forget the physical depression which the

experience entailed, by reason of its devitalized and heated atmosphere. The long under-river run from the Battery to Joralemon Street which will form the connecting link between the subways of the boroughs, will allow no exits or surface ventilation and will certainly tend to even greater vitiation of the atmosphere in the downtown sections.

The subways of London and Paris, which to a certain extent have served as models for ours, have never required, or at least have never been provided with, currents of air other than those naturally produced at the exits and entrances for passengers. Furthermore, the London "tube" has until lately made use of steam engines instead of electric motors for propelling trains.

It would therefore seem that the physical depression experienced by travelers in our subway during the summer months is most of all due to the greater heat of our climate during that season as compared with that of the Old World cities in which subways are operated.

The problem which still awaits solution may perhaps be met by an abundant supply of fresh air through inlets especially devoted to the purpose, by artificial cooling of the subways during the summer months or by artificial cleansing and reoxygenation of the atmosphere within the subway itself.

## CONSOLIDATION OF THE NEW YORK STATE MEDICAL SOCIETY AND THE NEW YORK MEDICAL ASSOCIATION.

It has been officially announced that consolidation of the two great medical bodies of the State has at last been accomplished. Every one is satisfied with the arrangement and no voice expressing other than pleasure in the long contemplated change has been heard. It is believed that the power of a united body will be much greater than the two separate organizations even when the two were agreed upon any special measure. The signs are auspicious for the success of the consolidated New York State Medical Society.

## A CHAIR OF MILITARY HYGIENE AT WEST POINT.

As noted in another column of the JOURNAL, the Government has provided an entirely new department at West Point in the establishment of a chair of Military Hygiene. This order from the War Department, it is quite evident, is a conces-



sion to, and recognition of, the remarkable results achieved by the Japanese surgeons in the Russo-Japanese War. This radical action contains a bit of humor, more evident, no doubt, to the doctor than to the layman. The report bears the stamp of authority. "The object is to instruct the cadets in medicine and surgery to the extent of imparting knowledge of the care of troops from a hygienic standpoint and also in the use of medicine for the more common ailments likely to happen in small commands. There is no intention of graduating cadets for the medical department of the Army in creating the new department of study." We trust that the duties of the cadets in their other departments of study will not suffer by reason of the added course in question. But we can scarcely hope that the respect of the West Point cadets for medical science can be seriously deepened by a side study which, it would seem, must be of necessity, rather superficial, by reason of the notably severe courses already laid down at West Point for our future generals and commanders of the Army. We wish that the opposite view of the question were possible.

It might be claimed by an opponent that a thorough course of first-aid-to-the-injured, thoroughly cultivated by a future general of troops, would logically lead him to exercise every reasonable precaution in an endeavor to deploy his command out of reach of the firing line of the enemy. On the other hand, it would be ridiculous to expect to make of a cadet in a single course of study a thoroughly efficient worker with the microscope and test-tube.

We would respectfully call the attention of the Department to the fact that the Japanese generals made of their surgeons useful allies and it was the splendid work of these in preventing diseases and employing dexterous surgery in field-work we heard so much. The order from a commander or general of the United States Army to prevent communicable diseases in the field is at present, we believe, just as fully capable of being filled by our surgeons as were those from the Japanese commanders—the latter not trained, it may be observed in military hygiene.

Nor do we think the United States Army cadet needs training in the knowledge as to what the present-day, well-educated surgeon is capable of. Certainly it occurs to no one that the Japanese surgeon, who, to the credit of his nation, has obtained his present skill largely at the hands

of his American and European confrères, possesses arts of which the latter are ignorant.

The reason that the American and English army surgeon is not called upon to perform the tasks of selecting proper food-stuffs for the army in the field and in preventing diseases by the application of well-known principles of isolation and disinfection, to a greater extent than is at present the case, seems to be that in England the army is saddled by a huge monster of conservatism; while in our own army, which inherits the traditions of the mother country, the monster is but a grade less huge. This great impediment to the strength of the British Army was partly unseated during the South African War. We will be fortunate if, by the time the United States is called upon to meet again a foe in arms, the impediment of conservatism in our army is completely cast off; though this we truly believe it will be.

Perhaps no one thing could do so much to readjust the present army ideals to the utilization of modern scientific sanitary methods for preserving the health of armies in the field as the appointment of a Secretary of National Hygiene, who shall be a physician, to the President's cabinet. Such an adviser in the position indicated might easily have prevented the very thing which may likely prove impractical and to which the heading of this reading refers. He might aid in giving the surgeon higher standing in the Army, but what would be more important, he would certainly make the surgeon a more useful member of it.

National pure-food legislation and pure-drug legislation, both of which concern directly the efficiency of an army, are questions concerning which the governmental body of any nation might well be better fitted to influence by virtue of having, as one of its members, a physician.

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## CORRESPONDENCE.

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### CHEAP AND ECONOMICAL SICK-ROOM REFRIGERATOR.

*Brooklyn Medical Journal:*

Having a case of typhoid fever in my family we were greatly inconvenienced in going from the second story to the basement floor every two hours for iced milk kept in the refrigerator.

To remedy this I bought an ordinary iron galvanized slop pail, with a fairly tight-fitting cover, around which I wound some one-inch hair felt, kept in place by wire.

I found that a piece of ice about eight inches

square broken in half dozen pieces, with a small handful of salt would last twelve hours and keep the temperature of the milk from 28 to 40 degrees Fahr.

This homely room-refrigerator cost 40 cents, and after its use as a refrigerator is over, can be utilized in the household.

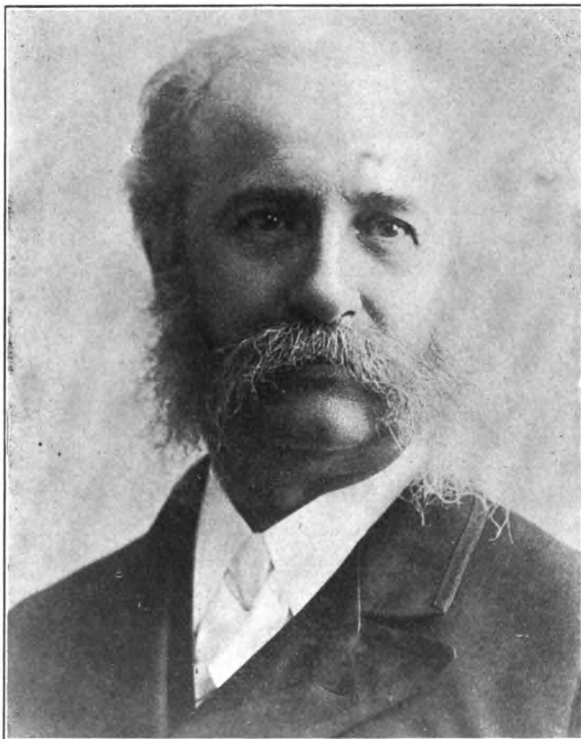
WILLIAM A. DELONG, M. D.

Brooklyn, August 23, 1905.

## OBITUARY

### ROBERT ORMISTON, M.D

The last but one of the active members of the Medical Society, County of Kings, has been called to rest. He was one of the two hundred and fourteen who became members of the Society during the years from March, 1822, to December, 1865, the remaining member being John G. Johnson, M.D., who has been an active member since 1861.



ROBERT ORMISTON, M.D.

Dr. Ormiston was born in 1832 at Rassie, St. Lawrence County, New York. His father, also Robert, was a native of the same place. The marriage of Dr. Ormiston to Miss Susie Richardson Tooker was all that could be desired. The children that blessed this union were Robert McGregor and Theodore Henry Ormiston.

The doctor's early education was received in the Ox-Bow Schools of this State. He began the study of medicine under the direction of Dr. Franklin B. Hough, and attended lectures at the Geneva Medical College, graduating M.D. from the medical department of the University of Pennsylvania in 1858. He entered upon the practice of medicine in this city, remaining until his death, which occurred at Stamford, N. Y., the 19th of September, 1905.

Dr. Ormiston was Surgeon of the 13th Regiment during the war from 1861 to 1865, physician to the Brooklyn Dispensary in 1872, and to the Brooklyn Hospital from 1870-75, and consulting physician from 1875 to 1905; he was a member of the Brooklyn Pathological Society, and from 1861 to 1905 a member of the Medical Society, County of Kings.

He was also a trustee of Packer Institute, a member of the Hamilton and Rembrandt Clubs and Christ P. E. Church.

WILLIAM SCHROEDER, M.D.,

Chairman of the History Committee.

## MEDICAL NEWS.

EDITED BY CLARENCE REGINALD HYDE, M.D.

*It is earnestly hoped that all members of the profession possessing news concerning themselves or their friends, which would interest others, will communicate the same to the News Editor before the 9th of each month. Items for this department should be sent promptly to Clarence Reginald Hyde, M.D., 126 Joralemon Street.*

Dr. Jerome B. Thomas, L. I. C. H., '92, and in charge of the Civil Service Sanatorium at Benquet, Philippine Islands, is in town. He will remain here for over a month.

Dr. James A. Somers has removed to 96 Greene Avenue.

Because of the record he has made in New Orleans in stamping out yellow fever a movement is taking form to have Dr. J. H. White permanently stationed at that city as a military adviser to the authorities.

Announcement that \$5,000 to endow free beds at the Suydenham Hospital has been given by M. Guggenheim's Sons has been made by the hospital directors. Mrs. Isaac Guggenheim gave \$700 for further improvements in the maternity ward, and the Shuberts offered free use of the

Lyric Theatre for a benefit performance for the hospital on November 26.

The new Washington Heights Hospital, which was informally opened on August 1, was formally dedicated October 11th. Edward Lauterbach made the dedicatory address. The hospital is using the old Hosea B. Perkins house at Broadway and 179th Street until the new building is erected.

The question whether the proposed sanatorium for the treatment of tuberculous patients at 75 Henry Street is a menace to the public health was again up for trial before Supreme Court Justice Marean in the equity term of the Supreme Court, but, upon the request of the Corporation Counsel, it was put off for the term and will not be tried until next month.

An order has been issued by the War Department creating a department of military hygiene in the military academy at West Point. The object is to instruct the cadets in medicine and surgery to the extent of imparting knowledge of the care of troops from a hygienic standpoint, and also in the use of medicine for the more common ailments likely to happen in small commands. There is no intention of graduating cadets for the medical department of the army in creating this new department of study.

Dr. Marcus Fitcher Wheatland, a colored physician of Newport, R. I., is recognized as New England's leading specialist in electro-therapeutics and the X-ray. In early life he was a shoemaker.

The Williamsburg Hospital continuing the policy of expansion it has begun for the betterment of its service, has added to its faculty Dr. Glentworth R. Butler, of Gates Avenue. Dr. Butler is the author of "Diagnostics of Internal Medicine," which is an authority in the medical profession throughout the country.

Parliament will be asked to offer a \$200,000 prize for a cure for consumption. The project has the approval of the government, and therefore its adoption is assured. This is the outgrowth of the discussions at the Tuberculosis Congress. It is expected that the prize will stimulate research in time for the result to be announced at the next Tuberculosis Congress, which is to be held in Washington in 1906.

Dr. William H. Diefenbach read a paper recently before the Homeopathic Society of the County of New York on "New Methods of Applying Radium Salts Therapeutically." His method consists of dipping celluloid or hard rubber rods into solutions of radium salts and then inserting the rods into incisions made in cancer-

ous growths. He believes that he can cure selected cases but acknowledges that some cases, when there is much involvement, are hopeless.

On October 18th the new Nurses' Home of the Kingston Avenue Hospital was formally opened. The affair was the occasion of a public reception tendered by the Board of Health through Commissioner Darlington.

In the province of Ghilan, Persia, a hospital has been recently opened which will compare favorably with similar institutions in this and European countries. It was built under the direction of the fourth son of the Shah, who is Governor-General of the province, and who contributed nine thousand dollars out of his private means for the construction of the hospital. It is situated in a healthy locality, and has seven wards, each of which will accommodate fifteen patients. It also has a consulting room, operating room, and all the other appointments of a modern hospital. The furniture for the place was brought from Russia.

The State Board of Charities has pending before it applications of the Beth Jacob Joseph Hospital, St. Gregory's Free Emergency Accident Hospital and ambulance station, Carmel Hospital and Dispensary, East Side Hospital Association and the Zion Hospital Association for permission to incorporate and operate on the lower East Side of New York City.

The Board to-day passed a resolution declaring that while there is an apparent need for the extension of suitable hospital facilities in that district it would seem probable that the incorporation of so many institutions would lead to a confusion of effort and be productive of other undesirable results. Secretary Hebbard was directed to communicate with the proposed incorporators and to suggest that they confer with each other with a view of extending the facilities of the hospitals already operating in the district in question or of uniting in one hospital corporation.

Prof. Behring, of Paris, who discovered the serum treatment for diphtheria and who is one of the most famous of the Pasteur Institute experts, informs the *Matin* that he intends to proclaim next August a method which he has discovered of curing tuberculosis. He says that the method involves the use of neither serum nor vaccine, but that it is a preventive as well as a curative remedy. He will hold the secret some time, as he did in the case of his diphtheria serum.

He will explain the method to Drs. Roux and Mentchikoff and leave the application of it to medical practitioners without revealing the nature

of the remedy, because he thinks he has a right to reserve temporarily the profits of the discovery to enable him to prosecute other researches.

Prof. Behring promises to make a preliminary announcement to the Tuberculosis Congress.

## BOOK REVIEWS.

**THE DIAGNOSTICS OF INTERNAL MEDICINE: A Clinical Treatise upon the Recognized Principles of Medical Diagnosis.** Prepared for the use of Students and Practitioners. By Glentworth Reeve Butler, Sc.D., M.D. *Second revised edition.* N. Y. and Lond., D. Appleton & Co., 1905. xxxiv, 1168 pp., 5 col. pl. 8°. Price: Cloth, \$6.00.

Favorable reviews and large sales have so markedly shown the good opinion of this work that it is unnecessary for us to add anything to our first comments on its merits. To meet the large demand for the work, the publishers have been compelled to make a number of reprintings, and the author now offers a second edition, the result of careful revision, with valuable additions and alterations. A new section on diseases of the mind, by Dr. William A. White, Superintendent of the Government Hospital for the Insane, Washington, D.C., and one on the medical X-ray diagnosis by Dr. Paul M. Pilcher, Assistant Surgeon to the Methodist Episcopal Hospital, have been added. Careful revision has brought the remainder of the work up to date. We again congratulate the author on his brilliant achievement, and the profession of this city that such an enduring monument to science and learning has been raised by one of their fellows.

**A MANUAL OF DISEASES OF THE EYE.** For Students and General Practitioners. By Clarence A. Veasey, A.M., M.D. Phila. and N. Y., Lea Bros. & Co., 1903. Col. front., 412 pp., 9 col. pl. 12 mo. Price: Cloth, \$2.00.

Veasey's Manual will prove to be a valuable addition to a doctor's library.

In a book of such general excellence, it is difficult to discriminate and say what part is the best.

However, if such an attempt were to be made, doubtless the chapter on diseases of the cornea would be considered the most complete.

JAMES W. INGALLS.

**A MANUAL OF DISEASES OF THE NOSE AND THROAT.** By Cornelius Godfrey Coakley, A.M., M.D. *Third edition, revised and enlarged.* N. Y. and Phila., Lea Bros. & Co., 1905. Col. front., 6, 17-594 pp., 4 col. pl., 8 vo. Price: Cloth, \$2.75.

This book has the advantages, but it also has the faults, of text-books designed to cover a large field within a small compass. Marvelously condensed, the less common disorders receive less attention than they deserve. We would here state our belief that the fact of a disease being rare does not justify its being slighted, yet this almost invariably happens when the author is limited to a small book. In Dr. Coakley's manual one might thus criticise the chapter dealing with acute septic inflammation of the larynx, a disease met with perhaps more frequently by the general practitioner than by the specialist. In the surgical treatment of diseases the author has wisely selected for description those methods only, which in his judgment and experience offer the best and quickest results. The result is a compact little manual, packed from cover to cover with meat for the rhinological and laryngological student.

W. C. B.

**MEDICAL LABORATORY METHODS AND TESTS.** By Herbert French, M.A., M.D. (Oxon.), M.R.C.P. (Lond.). Chic., W. T. Keener & Co., 1904. viii, 152 pp., 16 mo. Price: Boards, \$1.50.

A very good little book, almost too condensed, but containing a very satisfactory amount of information without verbiage. Some omissions are noted, e.g., the Boas-Oppler bacillus is not mentioned. The originals of the cuts appear to be home made. The results are not encouraging.

G. R. B.

**PNEUMONIA AND PNEUMO-COCCUS INFECTIONS.** By Robert B. Preble, A.B., M.D. Chic., Cloyd J. Head & Co., 1905. 211 pp., 12 mo. Price: Cloth, \$1.00.

This book is an interesting monograph on an engrossing subject; one of the best from an American which has yet appeared. It shows considerable research, as well as an extensive personal experience, and can be commended to those who are especially interested in the disease of which it treats. The absence of an index is hardly compensated for by the table of contents.

G. R. B.

**THE PHYSICIAN'S VISITING LIST** (Lindsay & Blakiston's). For 1905. Phila., P. B. Blakiston's Son & Co., (c. 1904). 24 pp., 901, 16 mo. Price: Flexible leather, \$1.00.

"Good wine needs no bush," and this visiting list has been well and favorably known for many years.

G. R. B.

**A COMPEND OF MEDICAL LATIN DESIGNED EXPRESSLY FOR ELEMENTARY TRAINING OF MEDICAL STUDENTS.** By W. T. St. Clair, A.M. *Second edition.* Phila., P. Blakiston's Son & Co., 1904. v-viii, 9-131 pp. 12 mo. Price: Cloth, \$1.00.

An excellent little book, simplifying the subject as much as is possible. There is no better handbook of the kind than this.

G. R. B.

**DISEASES OF THE HEART: A Clinical Text-book for the Use of Students and Practitioners of Medicine.** By Edmund Henry Colbeck. *Second edition, revised and enlarged.* Chic., W. T. Keener & Co., 1905. Front., 11, vii-xvi, 350 pp., 8 vo. Price: Cloth, \$2.50.

This is one of the best small treatises on diseases of the heart which has yet come to notice. It shows a wide and careful study of the subject, and much good sense and a knowledge of the relative value of things in omitting the detailed discussions of trivial points which are apt to make monographic books so uselessly encyclopædic. This volume is worthy of distinct commendation.

G. R. B.

**THE MEDICAL EXAMINATION FOR LIFE INSURANCE AND ITS ASSOCIATED CLINICAL METHODS, WITH CHAPTERS ON THE INSURANCE OF SUBSTANDARD LIVES AND ACCIDENT INSURANCE.** By Charles Lyman Greene, M.D. *Second edition, revised and enlarged.* Phila., P. Blakiston's Son & Co., 1905. 11, vii-xvi, 9-466 pp. 8 vo. Price: Cloth, \$4.00.

It is a pleasure to welcome the second edition of this useful book. It contains an amount of information, more or less directly cognate to the subject of insurance, which renders it valuable not only to the examiner but also to the practicing physician.

G. R. B.

**TRANSACTIONS OF THE AMERICAN RONTGEN RAY SOCIETY.** Fifth Annual Meeting, St. Louis, Mo., September 9, 10, 12, 13, 1904. Phila., A. H. Sickler Co., 1905. 183 pp., 8 vo.

The existence of an apparently flourishing society devoted to the study of the Rontgen ray in its medical applications is evidence of the wide use of this agent. A somewhat hasty examination of the papers and discussions of the society reveals considerable differences of opinion regarding technic and results—differences to be expected in the early years of the use of a comparatively novel force. To try all things and hold to that which is good is the function of the investigator in diagnosis and therapeutics. Hence one welcomes all such work as is recorded in this volume.

G. R. B.

**EXAMINATION OF THE URINE.** A manual for students and practitioners. By G. A. De Santos Saxe, M.D. Phil., N. Y. and Lond., W. B. Saunders & Co., 1904. Col. front., 11, 7-391 pp., 12 mo. Price: Flexible leather, \$1.50.

A well-written, concise, and practical manual, describing in sufficient detail the various procedures in the clinical examination of the urine. The diagnostic significance of the result of an urinalysis has been satisfactorily presented. G. R. B.

**A TEXT-BOOK OF MEDICAL CHEMISTRY AND TOXICOLOGY.** By James W. Holland, A.M., M.D. Phil. and London, W. B. Saunders & Co., 1905. 11, 11-592 pp., 4 l., 8 pl. 8vo. Price: Cloth, \$3.00.

The appearance of a new text-book on the subject of Medical Chemistry in the field already containing so many, must have some just claim for recognition.

We find this claim in this book in the notion of the author that a large part of medical chemistry consists of a knowledge of the toxicology of substances known to be poisonous in excessive doses. This idea runs through the whole book, and indeed the author states in his preface that "much of the text relating to the toxicology of mineral corrosives and irritants has already appeared in the chapter, by the same author, in *Legal Medicine and Toxicology*, by Peterson and Haines."

While it must be admitted that toxicology is an important subject, there is ground for doubt as to the wisdom of compelling the medical student to devote a large part of his laboratory experience in chemistry to tedious toxicological operations that he will never have an opportunity to use, unless he becomes a professional chemist. It would seem that the training of medical students should be in matters he expects to use in his chosen profession. The book is well written and probably covers just the subjects Professor Holland teaches his students. It is clear, concise, accurate and up to date.

**THE NEW KNOWLEDGE: A POPULAR ACCOUNT OF THE NEW PHYSICS AND THE NEW CHEMISTRY IN THEIR RELATION TO THE NEW THEORY OF MATTER.** By Robert Kennedy Duncan. N. Y., A. S. Barnes & Co., 1905. 11, vii-xviii, pp. 11, 263 pp. 8vo. Price: Cloth, \$2.00.

This book presents an account of some of the more recent discoveries in physical chemistry, radio-activity and allied subjects in language easily understood by any one who has some knowledge of chemistry and physics. It also presents the deductions that have been drawn from these experiments leading up to the conclusion that there is no such thing as matter. That what we have heretofore regarded as matter is simply the manifestation of units of negative electricity, surrounded by the omnipresent ether of space.

Mass is only a negative electron in motion, carrying with it a portion of the ether in which it is bathed, and this combination is known as a capsule. These capsules congregating into groups constitute the atoms of the chemical elements, and therefore all the elements, as we have known them, are composed of variable groups of these corpuscles of electricity plus ether. Any one who wishes to follow the steps by which many of the foremost physicists are led to these astonishing conclusions is advised to read this book.

E. H. B.

**A TEXT-BOOK OF PRACTICAL THERAPEUTICS, WITH SPECIAL REFERENCE TO THE APPLICATION OF REMEDIAL MEASURES TO DISEASE AND THEIR EMPLOYMENT UPON A RATIONAL BASIS.** By Hobart Amory Hare, M.D., B.Sc. *Tenth Edition, Enlarged, Thoroughly Revised and Largely Re-written.* Phil. and N. Y., Lea Bros. & Co., 1904. xi, 17-908 pp. 8 vo. Price: \$4.00.

It is sufficient merely to chronicle the fact that the tenth edition of Hare's Therapeutics is on the market. It is probably the most universally popular and useful work of its kind. G. R. B.

**A TEXT-BOOK OF CLINICAL DIAGNOSIS BY LABORATORY METHODS: FOR THE USE OF STUDENTS, PRACTITIONERS, AND LABORATORY WORKERS.** By L. Napoleon Boston, A.M., M.D. Phil., N. Y., Lond., W. B. Saunders & Co., 1904. 11, 7-549 pp., 21, 10 pl., 26 col. pl. 8 vo. Price: Cloth, \$4.00.

Among several manuals concerning methods of laboratory work in relation to diagnosis the volume under consideration is one of the latest and best. Care seems to have been taken in selecting processes which can be employed in the small personal work-room of the practicing physician. It is very comprehensive in its scope, and the latest methods of the clinical laboratory are fully considered and described. The illustrations are unusually numerous and good. It is a practical and useful work. G. R. B.

**DIET IN HEALTH AND DISEASE.** By Julius Friedenwald, M.D., and John Rürh, M.D. Phil., N. Y., Lond., W. B. Saunders & Co., 1905. 11, 7-689 pp. 8 vo. Price: Cloth, \$4.00.

A good work on dietetics is always welcome. The giving of proper and detailed directions for the feeding of a patient, when based upon accurate knowledge of the requirements, constitutes one of the most important duties of the physician. Unfortunately, there is still much diversity of opinion in regard to some most pressing questions, e.g., concerning the diet in typhoid fever, acute and chronic nephritis, gout, diabetes, and the like. The book under review is quite sufficiently catholic to recognize this fact, and to present more than one side of such questions. It evidences a wide survey of the literature down to the latest, and is very comprehensive in scope. There need be no hesitancy in commending it to the attention of the internist. G. R. B.

**A TREATISE ON BRIGHT'S DISEASE AND DIABETES, WITH SPECIAL REFERENCE TO PATHOLOGY AND THERAPEUTICS.** By James Tyson, M.D. *Second Edition, illustrated.* Including a section on the Ocular Changes in Bright's Disease and in Diabetes, by George E. de Schweinitz, M.D. Phil., P. Blakiston's Son & Co., 1904. xiv, 17-381 pp., 7 col. pl. 8 vo. Price: Cloth, \$4.00.

The name of Tyson has been for so many years associated with the study of disorders involving changes in the urine that the work under consideration seems familiar to the reader. As a matter of fact, the first edition appeared in 1881. In its present state it has been largely re-written and considerably increased in size. It thereby forms a very satisfactory presentation of today's knowledge regarding two very important diseases. G. R. B.

**PRACTICAL DIETETICS.** By A. L. Benedict, A.M., M.D. Chic., G. P. Engelhard & Co., 1904. 383 pp. 12 mo. Price: Buckram, \$1.50.

This readable and useful volume of moderate size, is a welcome contribution to a very important subject. It is practical rather than encyclopædic, and contains much valuable material for every-day purposes. G. R. B.

**MECHANICAL VIBRATION AND ITS THERAPEUTIC APPLICATION.** By M. L. H. Arnold Snow, M.D. N. Y., Scientific Authors' Pub. Co., 1904. 11, ix-xviii, 297 pp., 9 pl. 8 vo. Price: Cloth, \$2.50.

Mechanical vibration as a therapeutic agent can be likened with the use of electricity in that its satisfied users are quite as enthusiastic in its praise as are its detractors in dispraise. If one wishes to test the value of mechanical vibration in the treatment of various ailments no better guide for its methods and indications can be found than that written by Dr. Snow. For lack of experience no judgment is ventured here. G. R. B.

**A MANUAL OF PERSONAL HYGIENE.** Proper living upon a physiologic basis. By American authors. Edited by Walter L. Pyle, A.M., M.D. *Second Edition, Revised and Enlarged.* Phil., N. Y., Lond., W. B. Saunders & Co., 1904. iii-xiv, 3-441 pp. 8 vo. Price: Silk, \$1.50.

This is an admirable work. It is written simply, clearly, and with wisdom. It is exactly the sort of book that the physician can safely commend to his *clients*. G. R. B.

**FIRST AID IN ILLNESS AND INJURY:** Comprised in a Series of Chapters on the Human Machine, Its Structure, its Implements of Repair, and the Accidents and Emergencies to which it is Liable. By James Evelyn Pilcher, M.D., L.H.D. *Ninth Edition Revised.* N. Y., C. Scribner's Sons, 1905. Front., xiv pp., 11, 356 pp. 16 mo. Price: Leather, \$2.00.

There is no work on first aid that is better known or held in higher esteem than that by Dr. Pilcher. It is the first aid text-book of the Army and Navy, and each new edition finds its introduction into our schools and colleges made easy by its predecessors. It is based upon the assumption that the importance of a general knowledge of the steps to be taken in the event of accident, in order to prevent serious consequences, is everywhere recognized; and it proceeds to direct the reader how best to conduct himself in the presence of such conditions. In this book the subject has been stripped as far as possible of technicality; subjects requiring medical experience for their application are not dwelt upon, and a distinction is made between essential points and details, the important facts being stated in large type and the accessory points in small type.

It has evidently been the author's aim not only to produce a text-book for first aid classes, but also to provide a manual for quick reference in emergencies.

It is a noteworthy fact that a strong sentiment is developing in favor of first aid instruction in schools and colleges. Dr. Pilcher's book founds this teaching upon a basis of anatomy and physiology. It is preeminently the best work upon this subject yet published, and is the only work which is adapted to all of the requirements of military instruction.

J. P. WARBASSE.

**MANUAL OF OPERATIVE SURGERY.** By John Fairbairn Binnie, A.M., C.M. (Aberdeen). *Second Edition, Revised and Enlarged.* Phil., P. Blakiston's Son & Co., 1905. x, 655 pp. 12 mo. Price: Flexible Leather, \$3.00.

This book omits, as far as possible, a description of the ordinary surgical procedures given in text-books on general surgery. Thus the author omits such subjects as amputations and ligations which occupy so much space in books on surgical treatment. Such portions of genito-urinary and rectal surgery as are fully treated in the common text-books on those subjects are passed over. The author has endeavored to be practical, and has described operations as they appear upon the living subject.

Very concisely does he dispose of the subject of bibliography of surgical operations by referring the reader to the catalog of the Surgeon-General's Library.

The author takes up consecutively operations upon the head and neck, thorax, abdomen, the genito-urinary system, the extremities, and the spine. The last part of the book is given to such special subjects as acute abscess, drainage, the nerves, principles of plastic surgery, and ligatures and sutures.

Dr. Binnie has contributed to the literature of surgery a book which possesses great merit. It is up-to-date, eminently practical, and well illustrated.

J. P. WARBASSE.

**MALFORMATIONS OF THE GENITAL ORGANS OF WOMAN.** By Ch. Debierre. Translated by J. Henry C. Simes, M.D. Phil., P. Blakiston's Son & Co., 1905. xiv, 182 pp. 8vo. Price: Cloth, \$1.50.

The reading matter in this little volume is not new. Nearly every gynecological text-work has its duplicate. With the exception of the lay tales of Bussy-Rabutin, all the anatomy and the examples of teratology which the author cites, are past history. The book fills us with stories of monsters, and as we read, our curiosity is excited, but we fail to discover or interpret anything of practical or scientific interest more than is already elucidated in our own gynecological reference books.

CLARENCE R. HYDE.

**GYNCOLOGY MEDICAL AND SURGICAL OUTLINES FOR STUDENTS AND PRACTITIONERS.** By Henry J. Garrigues, A.M., M.D. Phil., Lond., J. B. Lippincott Co., 1905. ll., vii-xxiii, 461 pp. 8vo. Price: Cloth, \$3.50.

This work should not be confounded with a work on similar lines written by the same author some years ago. Dr. Garrigues devotes most of his attention in this volume to medical gynecology. He states that his book is particularly for medical students and general practitioners. Therefore, all the minor gynecological operations which the general practitioner is likely to undertake are described in detail. It makes an excellent text-book, as it omits the detailed description of major operations which is of so little use to medical students. Gynecological treatment is accurately described and the student is made familiar with all the necessary instruments, diagnostic aids and other adjuncts of such work. The extremely low price, \$3.00, brings this work within reach of every medical student and general practitioner desiring an excellent text-book.

CLARENCE R. HYDE.

**THE DIAGNOSIS OF DISEASES OF WOMEN.** A treatise for students and practitioners. By Palmer Findley, B.S., M.D. *Second edition, revised and enlarged.* Phil., N.Y., Lea Brothers & Co., 1905. xvii, 17-588 pp., 11, 25 pl., 34 col. pl. 8vo. Price: Cloth, \$4.75.

The author believes a thorough knowledge of pathology is requisite to make a diagnosis. Therefore, particular stress is placed upon microscopical diagnoses, blood and bacteriological examinations.

There is so little new of late in the gynecological field that every new text-book seems unnecessary. But there is much yet which we do not know. We have yet to learn what is the phenomenon of menstruation, the cause of many ovarian diseases, especially cystic degeneration, the origin of which is a mooted question, and the why and wherefore of tumors. Gynecologists who possess a profound knowledge of pathology in all its branches, as Dr. Findley, could well devote their time to such problems, the elucidation of which may mean a radical departure in gynecological treatment, both medical and surgical.

The author has written, however, a most interesting work, which is intended purely for advanced students. The chapter on chorioepithelioma malignum, better known as deciduoma malignum, is a small classic by itself. One chapter on special diagnosis, that of uterine pregnancy, seems somewhat out of place in a book devoted especially to diseases of women.

The book is beautifully illustrated with abundant drawings and photogravures, also many colored plates.

CLARENCE R. HYDE.

**A TEXT-BOOK OF OBSTETRICS.** By Adam H. Wright. N.Y., D. Appleton & Co., 1905. xvii, 591 pp., 1 col. pl. 8vo. Price: Cloth, \$4.50.

The most conspicuous feature of Dr. Wright's obstetrics is its semi-popular style with little attempt at scientific precision. While it is doubtless a valuable aid to the author in his work as a teacher it can scarcely be found of great value to the practitioner as an authoritative treatise on the subject. So far as they go its teachings are in the main in accordance with the generally accepted views. Yet brief as they are they might have been presented in much less space.

While the typography is excellent, many of the illustrations are poorly executed and often fail in their purpose. This is especially true of the chapter on forceps delivery. Through inadvertence, no doubt, some of the borrowed illustrations are not credited to their original sources.

The usefulness of such a work must necessarily be limited.

**MATERNITAS: A BOOK CONCERNING THE CARE OF THE PROSPECTIVE MOTHER AND HER CHILD.** By Charles E. Paddock, M.D. Chic., C. J. Head & Co., 1905. 189 pp. 8vo. Price: Cloth, \$1.25.

This is a well-written booklet replete with good advice for mothers. Part first covers the period of pregnancy, confinement and post-partal convalescence. Part second treats of the care and feeding of the new born child.

The busy practitioner will find the book useful as a safe guide to be placed in the hands of prospective mothers.

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No. 12.

## ORIGINAL ARTICLES.

### MORE RAPID CORRECTION OF LATERAL CURVATURE OF THE SPINE.

BY WALTER TRUSLOW, M.D.

For clinical purposes, scoliosis or lateral curvature of the spine may be divided into these three groups depending upon the duration and severity of the deformity:

I. Those one-sided body leanings and spinal deviations due to muscular weakness only and such as can be corrected voluntarily.

II. Those in which structural changes are present but not fixed. (Fig. 1.)

III. Those in which structural deformities are quite fixed.

The treatment of lateral curvature will vary with the degree of the deformity, but we may lay down the principle that there is no stage in the progress of the condition which is not benefited by systematic general exercise and special muscular training. It is, however, the author's belief that this muscular training may be aided and the treatment period materially curtailed by intermitting with the use of correcting plaster of Paris jackets when structural changes have commenced. This paper describes a method which it is believed combines comparative comfort to the patient with efficiency.

In deformities of the first degree, or those due to muscular weakness only, I believe that exercise and the proper establishment, in the patient's daily routine, of hygienic living, with all that that implies, are alone called for. From the first sign of habitual body-lean or spinal deviation to one side more than the other, systematic, persistent and vigorous physical training must be undertaken and carried out for a number of months under the physician's personal care and then for a still longer period at some well-established gymnasium, the patient coming at stated intervals to the doctor for re-examination and suggestion.

The patient should undergo such treatment until the boy or girl is much stronger than his average fellow.

With those patients in whom structural changes

have commenced, we have these to overcome, as well as to establish the muscular tone. Certain pullings and liftings by the operator, especially when assisted by intelligent effort on the part of the patient, tend to stretch contracted muscles and ligaments. Machines also, some simple and some elaborate, have been devised to overcome resistance. They are used perhaps daily or every other day for a few minutes at a time. If persisted in they will do much. However, within a few minutes after the removal of this outside support, whether that supplied by the operator or by a machine, the patient will "slump" back into the faulty position. Although he can more easily pull himself back to a posture approaching the symmetrical one, he is nevertheless carrying himself for the greater part of his waking hours either hanging, as it were, from his weakened muscles and ligaments and thereby increasing their atonic stretching, or is resting unduly on the sides of the bodies of the vertebræ, and thus making them more wedge-shaped, or both of these conditions are present.

We have therefore three mechanical factors in this second class of lateral curvature—factors which are constantly operative, and which tend rapidly toward the third class in which the fixations are much more permanent. I refer to

(1) the muscular and ligamentous contractions on the one hand,

(2) the muscular and ligamentous stretchings and later atonic relaxations on the other, and

(3) the beginning wedge formation of the bodies of the supporting vertebræ and interfibrocartilage.

In congenital club-foot, we encounter exactly these mechanical factors. Our treatment by stretching the contracted muscles little by little and holding that little for a week or so at a time in plaster of Paris dressings until finally we have over-corrected the faulty position and nature has readjusted the abnormal structures, is very satisfactory in the various forms of talipes. Professor Lorenz has shown the application of the principle in the correction of congenital dislocation of the hip.

Why do we not apply this treatment to lateral



curvature of the spine? In the first place it is much more difficult, and again the abuse of the plaster jacket, for scoliosis has been so great that we naturally incline to discard it altogether. But in this I believe we lose a valuable corrective agent.

When the elder Sayre applied the first plaster

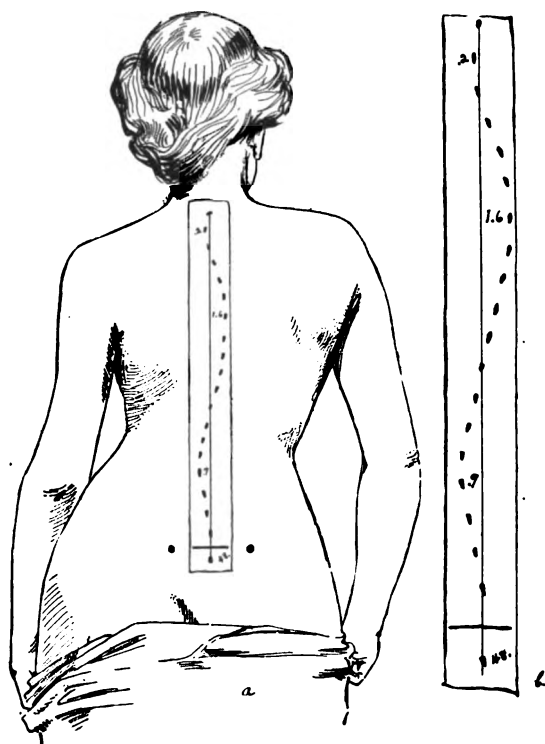


Fig. 1. a. Typical case, with right dorsal and left lumbar deviation and with leaning of body to the right. b. Adhesive plaster tracings of the vertebral spines.

jacket, he suspended the patient vertically from the jury-mast with head harness, the strain coming upon the head and neck and the arms. Dr. Sayre used graphically to describe his anxious watching for untoward cerebral and other nerve symptoms during many hours of that first day. Although having the advantage of knowing that this method has been successfully used thousands of times since, I wonder if we did not experience a little of that anxiety over our first plaster jacket. It is to avoid the fright and real discomfort and often pain and to obviate the consequent sense of hurry on the part of the operator, as well as to accomplish greater correction of the deformity, that the horizontal is substituted for the vertical position while applying the jacket. This method requires more paraphernalia than the older one, but the condition to be corrected is complicated and, I believe, deserves the greater preparation.

A gas-pipe frame, seven feet by two feet, with a fixed smaller frame, two feet by eighteen inches, extending at right angles from one end, is laid horizontally at convenient height upon two carpenter's horses (Fig. 2). The gas-pipe bar at the end of the large frame opposite the right-angled extension, has six or eight strong pegs on which to support one end of a hammock, and is so placed in the joints of the frame that it can revolve. A turn-screw and a retention pin, at one end, make this rotating bar adjustable. Along the middle of the large frame is stretched a stout canvas hammock, six or eight inches wide, accord-

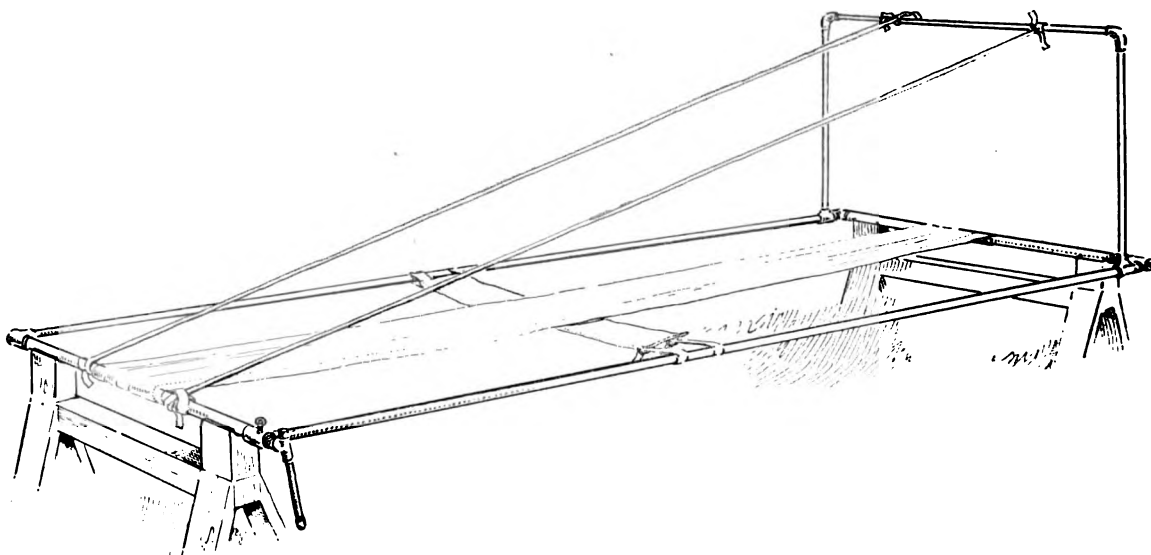


Fig. II. The Frame, with hammock and long webbing bands applied.

ing to the size of the patient, one end to pegs on the immovable end of the frame, the other to pegs on the rotating end. Two pieces of stout webbing bands are stretched from the cross-bar of the right angled extension to the revolving bar of the large frame. These pieces of webbing are added for the better retraction of the shoulders, and are separated from each other at the measured distance between the patient's shoulder joints. If the patient is heavy, a transverse belting is stretched between the sides of the large frame, underneath the long canvas hammock and at about the place where the upper third of the thighs will rest. A few turns of the revolving bar will make the canvas and the webbing tight and the adjusting pin will hold them so.

The patient, properly prepared with stockinette shirting, the long pieces of flannel bandaging for "scratcher" inserted and exposed bony points suitably padded, is now placed prone upon the canvas and webbing hammocks, with hands temporarily grasping the extension cross-bar. There will be a little sag in both hammocks, but they will be equalized and the extra height of the fixed end of the webbing will still hold the shoulders back (Fig. 3).

The longitudinal and lateral correcting forces are applied in the following order (Fig. 4): First, a rope or bandage anchors the feet to the lower bar. Then the familiar head-extension apparatus with ropes and pulleys draws head, neck and arms (the hands now resting on the cross-bar of this apparatus) gently toward the high cross-bar of the frame. The lateral traction straps are now applied. If we are dealing with the most common form of scoliosis, namely, a right dorsal and left lumbar double curve, with general sway of the trunk to the right (Fig. 1), a strong strap is passed around the pelvis, just below the level of the trochanters, and around the long bar at the left side of the frame. This is made simply snug and it will act as counter-traction to the strong pull which is to be made on the left side of the waist. The traction band for this is made of a piece of strong webbing to which has been sewed a broad and fairly thick pad of piano felting. The pad is placed over that portion of the patient's left side which corresponds with the greatest lower deviation of the spine. A moderate pull is made on this webbing to draw the lower spine toward the right, and the ends of the band are secured about the right side of the frame. It may now be found that enough elongation of the spine has occurred to make it possible

to take in a little slack on the head-extension apparatus. A similarly padded webbing band is now applied to the right side of the chest a little below the level of the right side spinal deviation and pulled and tied to the left side of the frame. The pad is placed just below the situation of the greatest right side deviation, because one end of the traction band pulls directly sidewise while the other, that which would otherwise press upon the breasts of an adolescent girl, is made to pass diagonally between the breasts and pulls partly headward. This also increases the longitudinal pull advantageously. Perhaps another taking in of slack may now be possible at the head-pulling apparatus, although any discomfort here is unnecessary. One should avoid too great correction with the first jacket, or the stretched muscles would cause the patient pain afterward. One

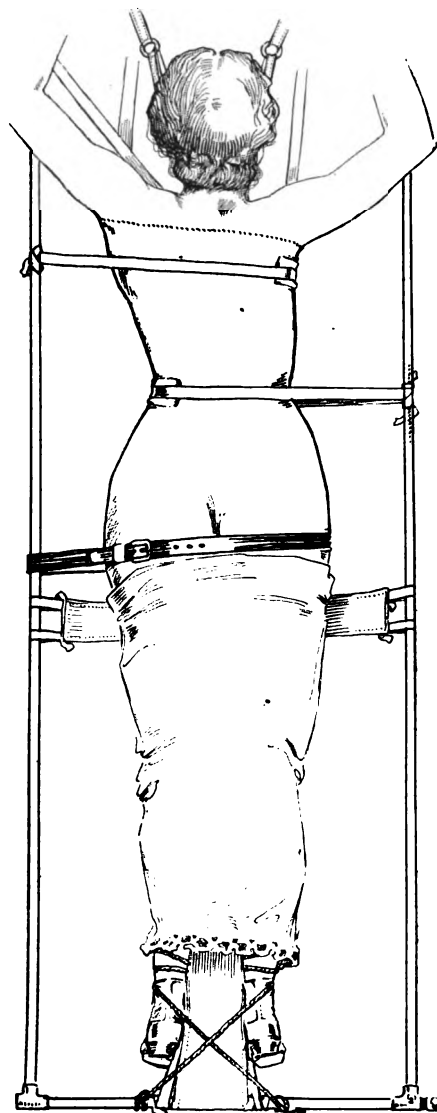


Fig. III. Patient in position with traction forces applied. Seen from above.

should draw on the lateral traction straps to just short of the patient's present discomfort.

The patient now lies in comparative comfort and the operator may with deliberation apply the plaster of Paris bandages. As one wishes to combine the greatest strength with the least of weight in the jacket, the material for the bandages should be of the best. It is well to have ready also shoulder-retraction straps, fastened to pieces of tin in such a way that the latter may be incorporated into the last few turns of the plaster, one under and just back of each armpit. A similar piece of tin, supporting webbing and buckles is incorporated at the back of the jacket. (Fig. 5.)

The plaster bandages are applied snugly to the

The patient now lies on the table entirely free from the frame which may therefore be placed at one side.

There is nothing unusual in the trimming of the plaster jacket except that the use of shoulder-retracting straps makes it possible to hold the shoulders well up and back, and yet to cut out the upper front of the jacket to about the level of the nipples to afford fuller chest expansion. (Fig. 5.)

When the jacket has firmly set the patient stands up and the shoulders are drawn well back by the shoulder-retracting straps, which are then buckled. If the tractions have been properly applied, a marked improvement will be observed in the carriage of the trunk in relation to the hips.

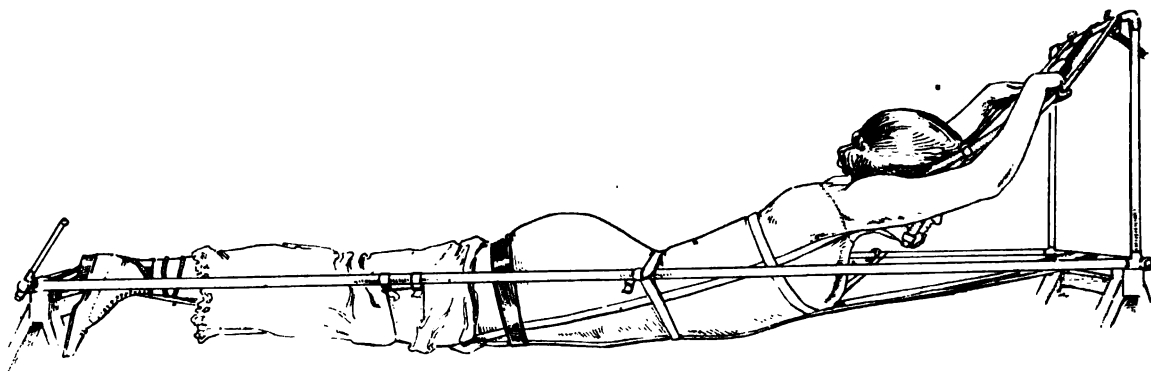


Fig. IV. Patient in position with traction forces applied. Seen from the side.

patient's figure from the trochanters to the armpits. The encircling rolls include the canvas and the webbing hammocks and those portions of the traction straps and pads which lie close to the stockinette covering the patient. When the ends of the traction straps are reached, the edges of the bandages are brought close to and then passed by them. Care is taken to make as little bulging here as possible. When the plaster has nearly set, the ends of these lateral traction straps are cut away close to the jacket, and the small holes covered by a turn or two of plaster bandages.

The entire frame, including the prone-suspended patient, may now be lifted from the supports to a long table. The head and foot traction gears are removed and the canvas and webbing hammocks drawn from beneath the plaster jacket, the lower ends of each having been first freed from the frame by unwinding the revolving bar.

Especially will it be noted that the slump to one side—usually to the right—has been in great measure, overcome. (Compare Fig. 1 and Fig. 3.) The carriage of head and shoulders also should be distinctly better.

The physician will judge his patient in the matter, but it is usually well to provide for the administration of some form of anodyne for the first night, as there will have been stretching of muscles which may cause temporary discomfort.

If this jacket has set evenly and strongly, it may be worn for three or four weeks, especially if the patient goes through some daily arm and leg and breathing exercises to keep in good condition. Other jackets are applied in the same way. In changing from one jacket to another the patient should not be allowed to stand or even to sit up, although he should then have the advantage of thorough soap and water and alcohol

and water bathing. At each succeeding application of plaster of Paris, more and more correction is sought by greater tension upon the traction straps. The author has not yet used more than four consecutive plaster jackets on a given patient, but believes that he could get greater correction by using more or in some cases by intermitting with the use of brace and exercises, returning to plaster of Paris after a few months. The latter procedure is often of distinct advantage as the return to exercise improves the general tone of the patient, just as the cessation of hard exercise and temporary rest in the plaster of Paris jacket has frequently been observed to benefit the general condition.

Just before applying the last jacket, measurements are taken for the brace, for there must be no sudden removal of the support.



Fig. V. The jacket applied. a. Seen from the side, noting the retraction of the shoulders. b. Seen from behind, noting the incorporation of the supports for shoulder retraction straps. c. Seen from the front, noting the low cut to allow thoracic breathing.

A modification of the Knight special brace, with careful attention to the details of shoulder straps and of laced traction bands, has been found

useful. For a year or two, at least, this brace or its successors should be used, and not removed except for bathing and for exercise.

Too much emphasis cannot be laid upon the importance of keeping up as much exercise as possible, while wearing the plaster jackets, and, on the substitution of the brace, of resuming vigorous gymnastics. The traction pullings and plaster of Paris holdings will have overcome structural changes to just such an extent as, in the doctor's judgment, it has been wise to go; but weak muscles have not become stronger, although they will more quickly recover their tone because of the rest, and they must be developed.

In conclusion, the author is at present unable to give a final report as to results of treatment, as he is now caring for eight or ten patients who are at various stages of the treatment, no one of whom he considers cured. But the results, so far, have been so satisfactory in causing distinct improvement that it seems worth while to present the method now in the hope that others may use and improve on it. The corrections gained have remained to just the extent that the patients have been willing to follow up the vigorous exercise.

It is an open question whether or not it is advisable to try to overcome the deformities of extreme scoliosis, especially when there seems to be evidence that ankylosis between vertebræ has partly compensated for the loss of muscular and ligamentous support.\* The development of the upper chest by breathing exercises will usually relieve the dyspnoea of these conditions.

#### SUMMARY:

1. Systematic physical training is the main therapeutic agent in the correction of lateral curvature of the spine.
2. Structural changes cannot be overcome by muscular effort alone.
3. Plaster of Paris jackets, applied under conditions of progressive longitudinal and lateral traction and frequently renewed, will rapidly overcome muscular contraction, and are advantageously employed in suitable cases of moderate severity.
4. This treatment must be promptly followed by the use of a brace and vigorous physical training.

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\* Since writing this paper the author finds that Lovett, of Boston, has used and reported a similar, but more radical method of correcting the structural deformities of lateral curvature of the spine. Dr. Lovett reports considerable improvement even in cases of fixed deformity.

**PERFORATION OF THE GALL BLADDER.**

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PERFORATION OF THE GALL BLADDER MAY FOLLOW AN INJURY TO THE VISCUS DUE TO FORCE FROM WITHOUT.

Such wounds and ruptures may coexist with lesions of the hepatic parenchyma, and, when these latter have required immediate laparotomy, one finds in the abdomen, mixed with blood, a large quantity of bile. Generally speaking the abdomen should never be closed in traumatic abdominal cases without a thorough examination of the inferior surface of the liver.

Traumatisms of the biliary passages alone have rarely been subjected to immediate intervention: Ferrier and Auvray quote only two cases (Kehr and Dalton), both followed by rapid recovery. The first was a wound made by a ball from a revolver. Kehr found the gall bladder wounded at its fundus and he closed the aperture by a double row of sutures. The patient of Dalton's had received a stab wound. The intestines were prolapsed through the abdominal wound. The gall bladder was perforated near the fundus, the aperture being 2 cm. in diameter. This was sutured, and an iodoform gauze drainage used. On the second day the gauze was removed. The wound united without leakage of bile.

PERFORATIONS ARE MORE COMMONLY DUE TO AN ULCER OF THE MUCOUS MEMBRANE WHICH FINALLY ATTACKS THE ENTIRE THICKNESS OF THE GALL BLADDER WALL. Such an ulcer is due to traumatism inflicted by a gall stone or to pressure from an empyema of the gall bladder. The ulcer may be an acute affair but is more likely to have been present for some time. The size of the perforation varies from a pin hole to a quarter of an inch in diameter. Larger perforations have been met with but are rare. A very small perforation and slow leakage is the rule. The clinical course pursued is well exemplified in the following cases in which I made a diagnosis of peritonitis, but operation was refused:

R. (B. H., No. 1888), male, aged 60. Two

years before the present attack there had occurred severe cramping, colicky, abdominal pains, with nausea and vomiting. These lasted some days and were thought to be due to over-indulgence in clam chowder and buttermilk. He recovered completely and had no further trouble until October 1, 1898. Shortly after a supper of cucumbers, chops and beer he experienced a severe pain in the epigastrium. He vomited, but this did not relieve the pain, which was so severe that he could neither eat nor sleep. There was occasional vomiting of bile. There was neither passage of feces nor gas. These symptoms continued for three days when he was brought to the hospital. Examination showed the abdomen somewhat but not markedly distended. The recti-muscles were not markedly rigid, but the entire abdominal wall showed some tension. There was diffuse tenderness, more marked on the right side to the outer side of the caput coli. The patient was suffering moderate pain. The face was anxious; the skin damp and clammy. Temperature 99.2° F., pulse 125, respirations 37. A diagnosis of perforative peritonitis was made, but operation was refused. A few hours after admission the temperature became subnormal. Twenty-four hours later he died. An autopsy showed the peritoneal cavity filled with bile, slight adhesion, and evidence of diffuse peritonitis. There was a small ulcer near the neck of the gall bladder. This ulcer had an indurated margin, and in its floor was found a small perforation about one-eighth of an inch in diameter. There were three small hard stones in the gall bladder.

RUPTURE OF THE GALL BLADDER OCCURRING AS A RESULT OF INJURY TO A GALL BLADDER NOT THE SEAT OF DISEASE IS NOT AS FATAL AS RUPTURE OCCURRING AS A RESULT OF INJURY IN A DISEASED GALL BLADDER. This view is supported by the case of a child aged six years (M. E. H., No. 1406),\* who, four weeks before admission, was run over by a light wagon, the wheels passing diagonally over the body across the right hypochondriac and left inguinal regions. This was followed by an acute peritonitis, more marked in the right hypochondrium. After ten days the peritonitis began to subside and coincidentally there appeared a tumor in the right hypochondrium. Fever was absent, loss of appetite continued, the stools were very light in color, there was considerable distension with gas and

\*Read in part before the Verein Deutscher Ärzte von Brooklyn, March 17, 1904.

\*I am permitted to report this case and case M. E. H. No. 1955 through the courtesy of Dr. Lewis S. Pilcher under whose care the case was.

continued and rapid loss of flesh and strength. On admission to the hospital the abdomen was greatly distended, there was tenderness over the right hypochondrium and a distinct tumor could be felt there. Aspirations of this tumor resulted in the withdrawal of 71 ounces of bile. Urinary examination showed the presence of bile. Nine days later the abdomen was as large as before and 59 ounces of bile were withdrawn by aspiration. Feb. bovis gr. v, t.i.d. was given. There was some gain in flesh and strength but the abdomen again became distended. The stools were somewhat darker in color. The appetite became excessive. A third aspiration was done and 90 ounces of pure bile were withdrawn. After this there was a rapid re-accumulation of bile in the sac and it was thought that the filled sac occluded the common bile duct by pressure when a certain tension had been reached.

Therefore an incision was made at the site of the previous aspirations. Following this there was a constant discharge of large quantities of bile. The stools remained light colored. The child's temperament changed from peevishness to good nature. About three weeks following the incision the stools became darker in color and the discharge of bile through the fistula lessened. Two weeks later the fistula had closed, the stools were normal in color, and the patient had gained greatly in weight. This case proves that the peritoneum will tolerate the presence of a large amount of pure bile, *i.e.*, bile not contaminated with bacteria; that the peritoneum will absorb a certain amount of bile, as shown by its presence in the urine; that even a larger amount of bile thrown into the peritoneal cavity while free at first will in time become encysted.

Contrast this history with that of a perforating ulcer in a gall bladder, containing calculi. A male 76 years of age (B. H., 8257) gave a history of abdominal distress with jaundice two months before the present sickness. Two days before admission to the hospital he was seized with severe colicky pain in the abdomen principally on the right side. This pain had become constant. He vomited once. He had one constipated movement. On examination there was slight distension, slight rigidity in the right upper quadrant of the abdomen, tenderness over the same area. The bowels could not be moved by enemata. Shortly after admission he vomited some coffee ground material. Temperature 99.3°, pulse 122, respirations 32. The ice coil somewhat relieved his pain. There evidently was a paralysis of peristalsis due to a perforative

peritonitis. Owing to the lack of intensity of the symptoms perforation of the bowel could be excluded. The symptoms pointed to a perforation of the gall bladder or ducts, and a small perforation at that. Operation (by Dr. George R. Fowler) disclosed a pin-hole perforation of the gall bladder. The peritoneum was coated here and there with lymph and bile was found in all parts of the cavity, but not in any great amount. A piece of the gall bladder containing the perforation was excised. Three stones were removed, two from the gall bladder and one from the common duct. A rubber drainage tube was inserted into the gall bladder. The peritoneal cavity was washed out and drained. The patient recovered well from the operation, the bowels moved and he partook of some nourishment and progressed favorably for two days. On the third day his breathing became very oppressed and his pulse almost imperceptible. In spite of stimulation he failed to rally and died at the end of the third day.

THE FIRST MARKED SYMPTOM OF GALL BLADDER DISEASE MAY BE PERFORATION AND CONSEQUENT PERITONITIS.

A man aged 56 years (M. E. H. 2755) had suffered with vague abdominal pains with malaise for several days. Vomiting, distension, constipation, and great tenderness in the region of the liver developed. The peritoneal cavity was entered through a right rectus incision (operator, Dr. George R. Fowler) and a large amount of what seemed to be pure bile found free in the peritoneal cavity. There was an opening of a considerable size in the gall bladder. This was sutured, the peritoneal cavity washed out and the abdominal wound closed. The patient did not rally and died in eight hours. There was no autopsy.

A similar case occurred at the German Hospital (G. H. No. 2027) (Operator, Russell S. Fowler). A. R., male, aged 35. Had never had any sickness until four days before admission, when he was seized with severe pain in the right side, radiating to the right shoulder. The bowels failed to move, and he vomited several times on the second and third day. On the morning of admission the pain suddenly disappeared and he remained fairly comfortable for several hours, when diffuse pains over the abdomen developed. Examination showed a rigid and tender abdomen with the tenderness most marked in the right iliac fossa. Attention is called to the fact that in several cases reported in this paper the greatest

tenderness was developed in the region of the caput coli. Temperature 104.4 F., pulse 120, respirations 28. A diagnosis of perforation of the gall bladder was made. Laparotomy disclosed a large amount of bile-stained fluid in the peritoneal cavity. There was a large ragged perforation in the gall bladder. The gall bladder was thickened and contracted and very adherent to the liver. It contained one round rough stone about an inch in circumference. The abdominal cavity was washed out, the gall bladder drained with a rubber tube and gauze was packed around the tube. The patient failed to rally and died two hours later.

A third somewhat similar case is as follows: E. K., female, aged 46 (G. H. No. 2924) (operator, Russell S. Fowler) was well until three weeks before admission, when she was seized with sudden pain over the entire abdomen, accompanied with vomiting. The vomiting was continuous, and she became much emaciated. The bowels were constipated until ten days before admission, when she had diarrhea. On admission, abdomen somewhat distended, not markedly rigid, diffusely tender. Temperature 102.6° F., pulse 148, respirations 40. A diagnosis of perforation of the gall bladder was made. Laparotomy disclosed free bile strained fluid in the peritoneal cavity. The gall bladder was atrophied and its walls much thickened. It was covered with plastic exudate, but there were no adhesions. There was a perforation near the fundus and a small gall stone was lodged in the opening. This was removed, as well as a larger stone in the gall bladder and a second small stone in a diverticulum of the gall bladder. There were several smaller stones in the gall bladder. The cystic duct was tied off with braided catgut and the gall bladder cut away with the thermocautery. The wound was packed and drained with iodoform gauze led out through the upper wound angle. The case developed a septic pneumonia and died three days following operation.

BEFORE PERFORATION OCCURS THE GALL BLADDER MAY BECOME ADHERENT TO THE ABDOMINAL WALL, AS WELL AS TO THE SURROUNDING STRUCTURES. THE PERFORATION MAY BE SO WELL WALLED OFF THAT ONLY A SLIGHT LEAKAGE OCCURS AND THE GENERAL PERITONEAL CAVITY BE NOT INVADDED. INFECTION TAKES PLACE AND AN ABSCESS FORMS WHICH HAS A TENDENCY TO POINT IN THE ABDOMINAL WALL.

The following history shows this clearly. (M. E. Hospital, No. 515) (operator, Dr. George R.

Fowler). The patient was a female, aged 42 years. No history of biliary colic. Complained of dull pain in back and below the free border of ribs on the right side. There was found an abscess of the abdominal wall over the site of the gall bladder. On incision, there escaped a small quantity of pus and several gall stones. More stones escaped subsequently, making eleven in all. The abscess was entirely extra peritoneal. Finally the cavity was dissected out, and complete healing ensued. No connection could be established at the time of the operation between the gall bladder and the abscess cavity, though such a connection must have existed at some previous time. This case also teaches us that it is possible for a gall bladder to perforate, to discharge a part if not all of its contained gall stones into an abscess cavity caused by the escape of infection material from the gall bladder, and then for the opening in the gall bladder to heal.

A somewhat similar case (M. E. H., No. 1,055) (operator, Dr. Lewis S. Pilcher) was one in which four months before admission to the hospital the patient, a male of forty-two years, had an abscess overlying the gall bladder. This had been evacuated and resulted in a sinus in, but not through, the abdominal wall. Preceding the abscess there had been symptoms of hepatic disturbances for about one year. All these symptoms subsided previous to the formation of the abscess. The sinus was curetted and healing resulted. No stones had been passed through the sinus.

PERFORATION OF THE GALL BLADDER MAY OCCUR, DUE TO ULCERATION, FOLLOWING EMPYEMA OF THE GALL BLADDER. THIS MAY RESULT IN ABSCESS IN THE NEIGHBORHOOD OF THE GALL BLADDER, WITH SECONDARY ABSCESS IN THE ABDOMINAL WALL. THE OPENING IN THE GALL BLADDER MAY PERSIST. THERE MAY BE NO STONE PRESENT. In the case of a female, 66 years old (M. E. H., No. 7,008) (operator, Dr. George R. Fowler) there was a history of stomach disturbance eight months before entering the hospital. Some time before admission a mass in the right iliac region was noted. This had become painful and tender. There was a loss of flesh and strength. The mass in the right iliac region was opened and considerable pus evacuated. The interior was found to communicate with a second abscess cavity between the cecum and the lateral abdominal wall. Free drainage was established. Examination of the discharge disclosed the presence of bile. At a second operation the sinus tract was dissected out. It was found to have its origin at the fundus



of the gall bladder with the interior of which it communicated. The sinus tract was removed and the opening in the gall bladder closed with Lembert sutures. Recovery was prompt and uncomplicated.

**PERFORATION OF THE GALL BLADDER INTO THE COLON.** THE GALL BLADDER MAY BECOME ADHERENT TO THE COLON. PERFORATION INTO THE COLON MAY OCCUR AT THE ADHERENT POINT. A female, aged 60 (German Hospital, No. 5,829) (operator, Dr. Russell S. Fowler), gave a history of pain and discomfort in the upper part of the abdomen for three years. There were occasional attacks of nausea. Three weeks before admission she had an attack of very sharp pain in the right side just below the free border of the ribs. This was accompanied with nausea and vomiting. She became jaundiced and had a great deal of itching of the skin. She had had attacks of this character before, but never so severe. When I saw her first she was somewhat jaundiced, conjunctivæ yellow. There was slight fever. She appeared well nourished. There was pain and tenderness in the region of the gall bladder and slight muscular rigidity. There was no enlargement of the liver or gall bladder. Slight fever. Dr. Wuest, who had watched her for several days and through whose courtesy I was called in, told me that the jaundice had been less for the past few days and that bile was now appearing in the stools. She had a leucocytosis of 23,000, 80 per cent polynuclear. A provisional diagnosis was made of a gall stone in the common duct, which had probably passed. The leucocytosis, of course, pointed to a suppurative inflammation of the wall of the gall bladder itself. The next day the pain becoming more severe it was decided to operate at once. Operation disclosed the gall bladder surrounded by a mass of adhesions. These were separated and a recent opening into the colon and into the gall bladder disclosed. There was a stone lodged in the gall bladder opening. The mucous membrane of the colon had not yet been perforated. The greater part of the gall bladder was removed. It contained five medium-sized stones. The cut edges of the gall bladder and the mucous lining of the stump were touched with the thermo-cautery, also the bleeding surface of the liver. The opening in the colon was closed by two purse-string sutures and a piece of omentum sewed over to reinforce the purse strings. A rubber tube was placed in

the cystic duct and held in place with three chromic gut sutures. Gauze was packed against the raw surface of the liver. Except at the upper part where the tube and gauze emerged, the wound was closed with sutures of silk-worm gut. The patient reacted poorly. There was considerable oozing from the wound for the first 48 hours. There was a plentiful flow of bile from the tube. On the fifth day the pulse became very weak and twenty-four hours later the patient died from what appeared to be a gradual wearing out of the heart muscle. She had no fever at any time after the operation nor any symptom of infection. An autopsy was not allowed.

**CHOLECYSTITIS WITH ADHESION TO THE DUODENUM AND SUBSEQUENT PERFORATION INTO THE DUODENUM.**

J. De B., male, 47 years of age (B. H. No. 734) (operator, Dr. George R. Fowler), was admitted May 14, 1897. As long as he could remember he had suffered from indigestion and constipation. Two months before admission he was seized with sudden cramping pains in the region of the gall bladder. These recurred at intervals for six weeks when they subsided somewhat. The feces were normal in color and he was not jaundiced. On admission, temperature normal, pulse 100, respiration 25; no jaundice; had cramp-like pains in lower abdominal region, also tenderness greatest over McBurney's point; abdominal muscles on right side tense. He was kept under observation for five days, during which time he ran an irregular temperature, highest 101 F. On the sixth day he was operated upon and the following condition disclosed. The colon and omentum were adherent to the stomach and gall bladder. When the adhesions were separated it was found that there was a communication between neck of the gall bladder and the duodenum at a point three inches from the pylorus. This communicating tract was partly laid open in separating the adherent colon, and it became necessary to close the opening in the duodenum and the gall bladder. This was done with Lembert sutures. There was considerable oozing. There were some enlarged retro-peritoneal glands. One of these was removed and was found to be in the condition of cheesy degeneration. The bile duct was normal, the gall bladder itself enlarged and thickened. The wound was packed and drained. The patient did not react from the shock of the operation and died in a few hours.

THE GALL BLADDER MAY PERFORATE INTO THE SMALL INTESTINE, A LARGE STONE MAY ESCAPE, THE ADHESIONS BETWEEN THE GALL BLADDER AND INTESTINE MAY STRETCH AND ATROPHY SO THAT VERY LITTLE TRACE OF THE FORMER INFLAMMATORY ADHESIONS REMAIN. THE STONE SO PASSED MAY REMAIN IN THE SMALL INTESTINE AND LATER CAUSE INTESTINAL OBSTRUCTION.

L. D., female, aged 54 (G. H. No. 2483) (operator, Russell S. Fowler), gave a history of acute cramp-like pains in the upper abdomen some thirty years before. She was sick for about a week at that time. Never sick since until the present illness which began one week before admission. The bowels had not moved during this time, and she vomited at first bile, later, the contents of the small intestine. On admission she was much distended; temperature 99, pulse 95, respirations 24. The pulse was of poor quality. There was a fecal vomiting. Median laparotomy disclosed a gall stone impacted in the lower ilium. The gut was incised and the stone removed. The stone, oblong in shape, measured in its largest circumference  $4\frac{1}{2}$  inches, in its smallest  $3\frac{1}{2}$  inches. The opening in the gut was closed with Lembert sutures. An examination of the gall bladder showed only some fine adhesions to the duodenum. The patient failed to rally and death occurred twenty hours after the operation.

#### SUPPURATIVE CHOLECYSTITIS WITH GANGRENE OF THE GALL BLADDER AND IMPENDING PERFORATION.

It sometimes happens that operation is done just as the gall bladder is about to perforate. Female, aged 31 (G. H., No. 5606) (operator, Russell S. Fowler), previous history negative, except for a few days of slight discomfort in the region of the gall bladder three months before the present illness. On August 25, 1904, the case was seen in consultation with Dr. Moss. Six days before the patient had been seized with severe cramping abdominal pains. This pain had grown progressively worse. Temperature  $100^{\circ}$ , F. to  $103^{\circ}$ , pulse 110 to 130, and several severe chills in the last 24 hours had marked the course of the disease. Examination showed extreme tenderness over the liver and gall bladder, rigidity of the upper portion of the right rectus. The patient had a profoundly septic look and was quite apathetic. There was no jaundice. Liver dullness increased. Some tympanites. Diffuse abdominal tenderness. A diagnosis was made of stone in the cystic duct with empyema of the gall bladder

and beginning necrosis of the gall bladder wall. A high leucocyte count further strengthened the diagnosis. The patient was removed to the German Hospital and immediate laparotomy performed. The operation findings were those of the clinical diagnosis. The gall bladder contained five ounces of pus. In the cystic duct was one small rough stone ( $\frac{3}{4}$  inch by  $\frac{1}{2}$  inch wide). Other ducts normal. The gall bladder was soft, friable and neurotic at the fundus. There were numerous recent adhesions.

Except for its attachment to the liver the gall bladder was easily removed. Hemorrhage from the congested liver was checked by the thermocautery. On account of the softened condition of the cystic duct no ligature was placed thereon. A Miculicz drain was packed against the stump of the cystic duct and the raw surface of the liver. Except for the emergence of this drain the wound was closed with crossed silk-worm gut sutures. The drain was removed on the third day. The wound healed in three weeks. There was no leakage of bile at any time. Condition 7 months after operation: A broad scar at site of operation; slight tenderness on deep pressure due to adhesion to the colon. General health excellent.

A similar case, though not so fortunate in its final result was P. F., female, aged 60 (G. H., No. 5,527) (operator, Russell S. Fowler). Nine years before, patient noticed a swelling in the region of the gall bladder. This gradually increased in size, but caused no inconvenience until five days before admission, when severe pains began. This was accompanied by vomiting of bile. Examination showed a gall bladder enlarged to the size of two fists and exquisitely tender. Pulse, temperature and respirations normal. Laparotomy disclosed a gall bladder on the point of perforation. There were no adhesions and the gangrene at the gall bladder apex was solely due to the extreme distension of the viscus. There was also an area of impending gangrene near the neck of the gall bladder. The gall bladder was fastened to the peritoneum and opened. A large quantity of muco-purulent material escaped. A small gall stone was removed from the cystic duct. The gall bladder was packed with iodoform gauze. The patient did well, and on the tenth day following the gall bladder was removed. For two days after the second operation everything was normal, but at the end of the second day pneumonia intervened, and two days later the patient died.

# SUPPURATIVE CHOLECYSTITIS, GANGRENE OF THE GALL BLADDER PERFORATION.

AS A RESULT OF SUPPURATIVE CHOLECYSTITIS A GANGRENOUS PROCESS MAY INVOLVE THE ENTIRE MUCOUS MEMBRANE OF THE GALL BLADDER, WHILE THE FIBROUS STRUCTURES ARE INVOLVED IN THE GANGRENOUS PROCESS AT ONE POINT ONLY. AT THIS POINT PERFORATION MAY OCCUR.

E. H. (B. H., No. 9374), female, aged 62; had suffered for years from attacks of severe epigastric pain, accompanied by nausea and vomiting. Never any jaundice or clay colored stools. Six days before admission she was suddenly seized with a particularly severe attack of epigastric pain accompanied by vomiting. The pain and vomiting persisted and increased in severity up to the time of admission to the hospital. There had been an irregular temperature. Examination showed slight distension, rigidity of both recti, more especially the right. Slight general abdominal tenderness. More marked tenderness in the right hypochondrium. No tumor could be made out. Marked leucocytosis. A diagnosis was made of impending perforation of the gall bladder with slight leakage. Operation (operator, Dr. Russell S. Fowler) showed a perforation of the gall bladder just below the fundus. There were but slight adhesions. In and around the gall bladder were some five ounces of very offensive pus. The gall bladder also contained one-half ounce of soft cholestrin material. The mucous membrane was gangrenous. The gangrenous mucous membrane was removed. Part of the gall bladder was resected, only enough being left to stitch a rubber drainage tube to. This was surrounded with iodoform gauze. The surroundings were disinfected and the wound closed, except at the site of emergence of the drain. Recovery was uneventful with the exception of an attack of cystitis, which responded to treatment.

## A CLINICAL REVIEW OF SOME RECENT CASES OF TUBAL PREGNANCY.\*

BY S. J. MC NAMARA, A.M., M.D.

Gynecologist to Kings County Hospital. Obstetrician,  
St. Mary's Female Hospital.

Of the many varied pathological conditions to which womankind is heir to, none seem to equal in suddenness and gravity, nor call for more de-

cisive action by her medical adviser than tubal pregnancy. Nor is delay or error ever fraught with severe punishment unless artificially relieved. A tubal pregnancy always terminates fatally to the child and is frequently fatal to mother. I shall endeavor to present briefly the histories of four recent cases of tubal pregnancy, together with a few remarks of the different conditions and pathological reports. I shall not endeavor to do more, but shall leave the rest for the discussion that may follow.

### CASE NO. I: INTERSTITIAL TUBAL PREGNANCY.

Ada Jackson, 27 years, U. S., married. Admitted to hospital August 5, 1905; discharged Sept. 5, 1905. Menstruation regular from the age of 16 until first pregnancy, in April, 1905. Patient says she had abortion in June and has been flowing continuously since, on account of which flow she sought treatment. Slight pain on lower right side of abdomen. Examination: Vagina normal nullipara, cervix softened and patulous. Blood coming from cervix. Bimanual examination shows a uterus of peculiar shape, irregular in outline and lying obliquely in pelvis; marked tenderness. Operation, August 12: Pelvis organs much distorted and bound together by adhesions; prevaginal hysterectomy; considerable bleeding from raw surfaces. *Intravenous saline infusion of 4 pints. Abdomen filled with hot saline.* Duration of operation one hour and a half. Abdomen closed in usual manner. Patient made a good recovery.

This case had undergone primary rupture. Gestation was probably at an end, and what the outcome would be was a matter of conjecture, but, in my opinion, would probably result in an abscess due to infection from the uterine mucosa, rather than to remaining as lithopædion. Amount of adhesions would lead me to suspect some inflammatory action already begun.

The pathological report is as follows: Specimen sent seems to be a supra-cervical hysterectomy adnexa attached. Multiple adhesions between tube and ovary of right side, adhesions of a lesser degree between tube and ovary of left side. Uterine body about normal in size. Mucosa thickened and very vascular; more pronounced in region of right cornu. Right cornu of uterus about 1½ inches in diameter. External surface smooth and cyanotic. Upon section, cut surface resembles the external surface of a normal placenta. Towards the fimbriates extremity,

\*Read before the Brooklyn Gynecological Society, October 6th, 1905.

tube seems to be thickened. In center of mass, tissue presented a paler and smoother appearance than that externally and also contained about 5 minims of serosanguinous fluid. Odor normal. No calcification.

#### MICROSCOPICAL EXAMINATION.

Tissue taken from right cornu is normal placental tissue, exhibiting very slight degeneration.—*Dr. Joseph, Resident Pathologist.*

Interstitial pregnancy is distinguished from the common forms by the position of the round ligament on the outer side of the sac, where the uterine tube is also found. The uterus is enlarged and intimately connected with the inner side of the tumor, of which it appears to form an organic part. An interstitial pregnancy may also become intraligamentary.—*Kelly.*

The interstitial form of tubal pregnancy is of very infrequent occurrence. Martin found one in seventy-seven (77) cases. Kelly in his work says he has never observed an example of interstitial pregnancy. Almost all cases of tubal pregnancy occur either in the isthmus or ampulla and rarely at the fimbriated end.

As abdominal pregnancy is a pathological myth and an ovarian pregnancy a gynecological rarity let the terms extra-uterine and ectopic be supplanted for the more definite one of tubal pregnancy.

CASE NO. 2. Mrs. Mary Taylor (M. T.), 42 years; born in Ohio; married; 7 children, youngest 7 years. History of syphilis. Five miscarriages since last birth. Last miscarriage 3 years ago, since which time menses have been regular up to May, when she was sick twice in the month. Flowed 5 days in June. Present flow began one month ago. Patient believed she was having a miscarriage. Pain began *only after flow had continued one week*. Bearing down pains necessitating her to go to bed for a while, getting up and going back to bed as the pain got well or grew worse. Had one attack of severe pain, which attacked her suddenly while in the hallway of her home. Not positive as to time of this attack of pain.

Examination revealed a mass on right side, extending to crest of ileum, tender, some elevation of temperature; under anesthesia an incision in cul-de-sac revealed blood clots. The following day, abdominal section showed abdomen to be filled with blood, mostly clots, some well organized. After getting rid of clots we found this specimen of tubal abortion on the right side.

excision of tube and ovary. Patient made a good recovery, somewhat protracted by suppuration of chromic gut sutures used in the fascia of the abdominal walls.

CASE NO. 3. J. A., 27 years, U. S.; menses at 14; married 7 years, but not living with husband. Had 3 consecutive miscarriages, finally giving birth to a child at term, now 5 years old. Menses regular up to last April. Skipped one period in April or May (not certain which). Menses finally coming on as a flooding which has continued ever since, now over four (4) months. Some nausea since April 2. Denies any opportunity for pregnancy since latter part of March, at which time she met her husband in an attempt at reconciliation.

Examination shows vagina extremely sensitive. Rectum equally so. Under chloroform, a well-defined mass about size of small orange could be felt in right broad ligament, uterus not enlarged, Ulceration of rectal mucous membrane accounted for extreme sensitiveness.

Owing to patient's history and her positive denial of any pregnancy other than one of 5 months' gestation a diagnosis was not made, but operation advised and performed two (2) days later. On opening the abdomen the right tube was found enlarged and adherent to ovary and uterus, resembling somewhat the condition found in pyosalpinx. Tube and ovary removed; no clots or free blood in peritoneal cavity. After the operation an examination of the specimen revealed a little joker in the distended tube. He was immersed in a fair amount of liquor ammi which escaped on incision. Patient made an excellent recovery. Temperature not going above 99 degrees and pulse reaching 100 only on one occasion.

The difference between the patient's statement and the pathological facts is great. And still the skipped period in May (or April), flooding afterwards and flowing since, are evidences that something happened at that time, and yet the pathologist will tell us that this is a six to eight weeks fetus.

How can we reconcile these opposing statements? In the possibility of legal complication ensuing, is the study of the fetus situated extra-uterine sufficiently well understood to be properly defined and controvert the patient's statement?

It is often impossible to determine how far tubal pregnancy has progressed, either from the history or from the products of conception. The

size of the sac not corresponding to the period of gestation, it may grow rapidly or it may remain small.

CASE NO. 4. Seen in consultation with Dr. E. H. Mayne. Mrs. LeB., 38 years; mother of several children. Taken on a Monday with some pain and slight flowing after having skipped one period. Symptoms improved next day, but increased pain and shock by Saturday made operation urgent. Bimanual examination painful and difficult and showed no gross pathological condition; uterus not enlarged; cervix soft. Examination of the specimen taken at the operation on Sunday following the attack shows how difficult it is to diagnose a tubal abortion or a ruptured tube in an early pregnancy.

I exhibit this specimen with a tentative diagnosis of double-tubal pregnancy. The pathologist has not yet reported on it and as the microscopical findings are necessary to conclusively prove our diagnosis we must await his opinion. This case exhibits one of the most dangerous varieties of tubal pregnancy, as pelvic examination does not show its true pathological condition, the distention of tube being smaller, while the hemorrhage may be great. If the blood is fluid and free in the abdominal cavity it may not be possible to feel it, and at best all one can feel is a mass of somewhat indefinite outlines and peculiar consistency.

In reviewing the histories of these few cases one is struck with the diversity of the outset of the disease. One symptom that stands out more prominently than others is that most of these patients thought they were having an ordinary miscarriage. The uterus was not enlarged in most of the cases, nor was the cervix softened in all.

It will be generally agreed that the diagnosis of tubal pregnancy can be positively made upon the basis of the following signs:

1. Cessation of menses for one or more periods.
2. Some enlargement of uterus.
3. The formation of a cystic tumor lateral to uterus.
4. The expulsion of a membrane resembling a cast from the uterus.
5. Usually pains in lower abdomen.

A group of symptoms found in no other condition than tubal pregnancy.

Add to these symptoms increased pain, shock and often the formation of a distinct pelvic tumor, and we are able to call the condition by no other name than ruptured tubal pregnancy.

**REPORT OF THE COMMITTEE APPOINTED BY THE  
COUNCIL OF THE MEDICAL SOCIETY OF THE  
COUNTY OF KINGS TO PROSECUTE  
ILLEGAL PRACTITIONERS  
OF MEDICINE.\***

Since the meeting of the Council in June, when the matter of the prosecution of illegal practitioners of medicine was discussed, your committee has not felt encouraged to begin definite action, because of the small amount of money which was obtained in response to the appeal sent out last spring.

Such meagre returns show a lack of interest, and without interest on the part of the members of the Society, your committee's labors, even if begun, would soon of necessity come to an end.

In looking into the subject more fully, for the purpose of acquiring as much knowledge as possible of the present state of the minds of medical men and laymen in regard to the highly interesting problem of quackery, your committee finds that there is, perhaps, more than ever before, a diversity of opinion regarding the reasons for its increase and the best methods of controlling it. It would appear, however, that much the larger number of those who have given the matter more or less thoughtful consideration are in accord with the views expressed by Mr. D. F. Sicher in an address on "Quackery" before the Yale Biological Club and published in the September number of the *Popular Science Monthly*. Your committee begs permission to present a few extracts from that admirable layman's study of a layman's grievance, and would recommend the perusal of the article by every doctor of medicine. Mr. Sicher says, among other things:

"It was left for the modern era to furnish that strangest chapter—of an enormous spread of quackery, along with progress in scientific medicine and the growth of education. Berlin, capital city of the world's least hysterical people, reports an increase of 1,600 per cent. in the number of resident quacks since 1874. For England the roll-call is answered by *The British Medical Journal* thus: 'John Bull, for all his boasted common sense and hatred of humbug, is still more quack-ridden than any member of the human family except his cute Cousin Jonathan.' And as for 'cute Cousin Jonathan's' America—Champ S. Andrews, counsel exclusively retained by the Medical Society of the County of New York to expose medical frauds, is authority for the estimate that in New York City alone there are, against six thousand regular practitioners, twenty thousand quacks."

\* Presented to the Council, Nov. 15th, 1905.

After a clever exposition of his views of the origin, and reasons for the maintenance of quackery, he says further: "If confirmation of this diagnosis is desired, it may be sought in the recent spread of quackery and its especial vogue in America. Paradoxical as it sounds, the growth of education, while compelling the quack to improve his methods, has greatly extended his field. Formerly he seldom worked farther than his voice or circular might carry; now, every literate is a potential victim. His wares are displayed in almost every piece of print that strikes your eye; for the publisher and 'the press' he has subsidized and suborned.

"\* \* \* \* Not only has the growth of education placed a megaphone to the empiric's lips, but it has sensitized the public to his call. There is a wider interest in hygiene and therapeutics; people think more about their health and more readily take alarm. Similarly, the broadcast discussion of medical problems, in response to the interests of an educated public, creates a kind of diathesis to imaginary disease. Then, vaguely bound up, perhaps, in widespread education is the modern stress of life, hysteria, high nervous tension and susceptibility to fads.

"As a final (undetached) cause we must recognize the passion for untrammelled personal freedom, so characteristic of latter days, especially in England and America. It is that attitude which one writer savagely describes as 'jealously safeguarding to every citizen the sacred right of going to the devil in his own way.' Fearing to dispense undue privileges and unjust fetters, framers and executors of the law, notably in the United States, have virtually thrown open the delicate art of healing to almost any person too crack-brained or dishonest to earn an honorable living. It is not bare accident that America is at once the 'home of quackery' and the 'home of the free.'"

These, therefore—growth of education and the modern spirit of liberty—are the specific forces behind the recent spread of quackery; and America stands as arch-victim, just because they have been at their strongest here.

"\* \* \* \* Even from the foregoing generalizations it must appear that quackery is a seated evil, which the community, in self-defense, ought promptly to weed out. Yet the roots, as we have seen, spread out so variously, that past effort has been without effect, and the future will do no better unless exceptional measures are applied. In this case, it seems, diagnosis is easier than

treatment, for the social physician is blocked on every side. Surely, the requirements should be everywhere approximately as high as the better states and countries have set. Yet every step towards restriction of practice, even to the safety-point, meets with wrangling opposition. The cry of paternalism is raised, and even the disinterested see in such measures only an attempt at extending the alleged 'Medical Trust.'

"Quarantine is proper; government exposure of food adulteration is only right; of course, the state should protect its citizens against fraudulent investment schemes, and every enforcement of these safeguards calls out general praise. But it is ruinous paternalism to save the unwary public from unconscious alcoholism, medical extortion and dangerous malpractice. \* \* \* \* Just so long, however, as this repugnance for State interference with medical quackery obtains, it is folly to seek help in that quarter.

"\* \* \* \* Mr. Andrews reports that a well-nigh insuperable obstacle to his vigorous work is the difficulty of obtaining witnesses; persons are rather diffident about exposing frauds of which they have been the stupid victims. Besides, even in clear cases of frauds, it is often impossible to lay hands on the real culprit; or, if caught, after paying his fine or serving his sentence, the quack can start up the old business in another section under another name; the salutary restraints of public opinion play no part with him. After all, what boots it to crush a dozen or even fifty out of the unnumbered swarm? The press will not emphasize the prosecutions, and so their effect is lost."

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• Legislation, therefore, can only be secondary to ventilation and the education of public opinion. But how educate public opinion, when its educator, the press, is itself irretrievably allied with the forces of evil?

First, obviously such papers as have not prostituted themselves must agitate; they should expose their brothers' shame and the people's consequent losses. Then public-spirited men of all professions should everywhere organize—as has just been done in Germany—a systematic campaign against quackery. Perhaps the school boards may be free also to level a blow. I know the tendency is to overcram the curriculum, to attempt to arm the child with a petty smatter against every need in life; but if we are going to teach hygiene at all, if the possible consequences of alcohol and tobacco are to be pointed out, why

not lay some stress on a curse just as extensive and no less harmful, one which rests on no natural appetite, but on ignorance and absence of forewarning? At any rate, superintendents of board of education free lectures can include in their admirable courses a few talks on quackery by such qualified experts as Champe S. Andrews, Esq.

Against measures of this sort the press hardly dares raise its voice, and effective legislation will soon follow as the expression of the popular will."

The *Medical News* in commenting editorially upon the paper from which quotations have just been read, says, that "now that a wider education is in a small measure enabling the masses to reason instead of following blindly, it would appear that there is less hope than ever of dealing the death blow to quackery. \* \* \* \* We, as physicians, have for the most part resigned ourselves to hopeless silence, for whenever we attempt to raise our voices, even the disinterested have seen an attempt at extending the 'Medical Trust.' But now that the public has been given rope enough there is a possibility that they may suddenly realize that there is sufficient with which to hang itself. \* \* \* \* In Germany the public-spirited men of all professions have organized a systematic campaign against quackery. Is it possible for us to do the same? Cannot we at least endeavor to bring the matter before the public school authorities as a subject for some of the free lectures, and one deserving a small place in the curriculum along with the matter devoted to the danger of alcohol and tobacco? The hope lies in the layman who is the sufferer. We have known for centuries that he has been duped and defrauded, but he has thought our warnings were made purely in self-interest.

"From the tenor of the address referred to and other signs of the times, we hope that the worm is nearly ready to turn."

In a conversation which a member of your committee had recently with a scholarly and wise member of the lay side of this community, the latter expressed what your committee finds to be a somewhat prevalent opinion, viz., that in the matter of the prosecution of illegal practitioners of medicine a layman should be the plaintiff.

There is, however, still another class in both medical and lay circles which holds the opinion that even in the present condition of things nothing but good could come from a vigorous prose-

cution by medical societies of quacks and fakirs, and that, too, despite the somewhat illuminating statement made recently by Mr. James Taylor Lewis, counsel for the New York State Medical Association, that "from 1887 to 1905 there have been conducted in the State of New York, and especially in the County of New York, more or less continuous efforts against these non-medical persons in the hope of driving from the State the medical mountebanks of various varieties, but, in my judgment, there exist in our midst as many of these criminals as were found when the work began."

Be that as it may, your committee has seemingly no choice in the matter. After making an effort to raise money for the purpose and failing to arouse enthusiasm or to obtain anything like a sufficient sum of money, the members of your committee are of one mind in deeming it wise to ask for the discharge of the committee and to recommend that the moneys obtained from the various contributors to the fund be returned to them.

THOMAS R. FRENCH, *Chairman.*  
JAMES P. WARBASSE,  
HENRY G. WEBSTER,  
*Committee.*

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**REPORT OF THE COMMITTEE APPOINTED BY THE  
SECTION ON PEDIATRICS, OF THE MEDICAL  
SOCIETY OF THE COUNTY OF KINGS, TO  
INVESTIGATE AND REPORT UPON  
"THE MENTALLY DEFICIENT  
CHILD."**

**HISTORICAL RETROSPECT.**

To Sequin and his telling labor, in the years preceding and following 1842, we believe is due the credit for placing the mentally deficient child upon a new and higher basis. It has been the history of most great steps in advance along any line, that they are the results, not of the efforts of any one man, but of several working independently about the same time. And it was so in this case; quickly following the publications of Sequin, came those of two other investigators whose efforts had been in the same direction; Saegert, of Germany, and Guggenbuhl, of Switzerland.

The work of Guggenbuhl, which was mostly directed in improving the condition of cretins, was a distinct advance. His work clearly demonstrated the very close relationship and interde-



pendence of the physical and mental states, for by removing his charges from the shadowed valleys to the mountain tops, the improvement was marked and the mental improvement kept pace with the physical.

Saegert's labor was directed more to the improvement of the mental state, through instruction, and this was carried out along the same lines as his work in the education of deaf-mutes.

Sequin started out with the axiom that "the education of the senses must precede the education of the mind." He argued that the best method of instruction for those with an imperfectly developed nervous system was (1) to exercise the imperfect organs so as to develop their functions; (2) to train the functions so as to develop the organs.

Guggenbuhl's success in Switzerland finally led to the establishment of a school for imbeciles in England in 1846. This was the pioneer of a great system which is now being built up.

Following closely upon this came the first real move in the United States, when Massachusetts appointed a body of commissioners to inquire into the condition of idiots in that commonwealth, and suggest means for their immediate relief.

The recommendations of this body led to the establishment of an experimental school for feeble-minded children.

In New York State, an experimental school was started, in 1851, and this finally became the State Asylum at Syracuse; an admirable institution with an inadequate teaching force.

Ohio, Connecticut, Kentucky and Illinois were all early in the field.

Others followed in time, until at present we have a conglomeration of State-aided institutions, following different methods, all making widely varying classifications, and in general working as much out of harmony with each other as it is possible.

Each individual superintendent carries out his own ideas, or more generally obeys the instructions of a board of commissioners, who in turn are held in check by a system of short-sighted economy.

Much of the value of the work is lost by the lack of co-operation between institutions carrying on the same kind of work. The greater need is for a better classification.

#### THE MENTALLY ENFEEBLED CHILD.

It is necessary to state right here that the terms used to designate the mentally enfeebled child are too general. Up to this point we have

followed the general usage of the term, and included under it all cases of mental deficiency from the mildest to the most severe types.

The paper which was read before you at a previous meeting, and which resulted in the appointment of this committee, made a somewhat more distinct classification. Hereafter, throughout this report, that classification will be used; namely, idiocy, covering all of the lower grades of mental deficiency; imbecility, including all of the higher grades. The term "feeble minded" or "mentally enfeebled" will include all such cases as present to us an amount of mental deficiency, sufficient to disqualify the child from receiving the advantages which the normal child receives from the usual methods of education.

The question might arise at once, is there a sufficient number of children coming under this latter classification to warrant special care and the pursuance of special methods of instruction?

The chairman of this committee has made a somewhat extended observation, including nearly two thousand children of school age. Of these, six *per cent.* were mentally deficient or dull. Of the six *per cent.* the requirement of special means of education was decidedly indicated in more than one-third.

We claim for this observation one thing, that it shows that among our children of school age there are enough mentally enfeebled ones to demand special attention from our public educators.

These figures represent only an observation of the mental states. The physical stigmas were noted, but have not yet been classified. They, however, bear a very close relation to the mental condition.

If, in addition to those cases showing a mental deficiency, we take recognition of those children with physical deficiencies also, we have a large *per cent.* of school children who need special care and are not getting it.

Mental dullness is almost always associated with these physical abnormalities, and the reverse is also true, that the physical abnormalities are often our first intimation that there exists a mental defect.

The presence of physical stigmata, while not essentially an evidence of mental defect (nor should it be taken as such) should lead us to suspect it.

A systematic observation by a number of competent investigators would doubtless reveal conditions among school children which would result in more rational methods of instruction and care. True, there are many difficult phases of such

an observation. If it had for its object the subsequent separation of those who needed special care from those who were mentally and physically equipped to follow the regular course of study, the objection of parents would have to be dealt with.

But the difficulties and problems would be those of method only.

In New York State, to-day, the situation is briefly this. Children with marked physical defects are taken care of in institutions which have every convenience and equipment for their proper care and instruction. If blind, or a deaf-mute, provision is amply made for the education of the child along the line of its possibilities, and such instruction results in making an otherwise dependent child, independent and self-supporting.

Those suffering from serious mental defects are safeguarded, as they should well be, by a system of institutional care which is admirable.

Legislation has led to the greatest care being given to those who by nature have been deprived of the ability to care for themselves.

The treatment given by this State to the insane, the idiot and the imbecile is a credit to the commonwealth. The prime object of this care was the general improvement of the surroundings and conditions of this class of mental defectives and their removal from the influence of those who could not properly care for them. The result has been not alone a betterment of previously existing surroundings, but a gradual improvement in the mental conditions. This has been especially true in the case of idiots.

But no matter what the degree of improvement, these cases are essentially always a burden upon the commonwealth. The vast majority will never be able to take any considerable care of themselves.

On the other hand, there exists a class of cases for which the state or city make no provision. If suitable provision was made, and they received the attention which is their right, there would be saved to the State a large number of very valuable citizens. We refer now to the mentally-enfeebled child.

As conditions exist to-day, there is no care given to them, and if such a child is not able to keep up with the regular school curriculum, he is left largely to himself and rapidly degenerates.

Such a child, without the special care and instruction required by his mental capabilities, becomes a menace to himself and to society by his rapid development of immoral practices and traits.

As a rule, these children are considered backward by the parents and receive no special attention until they become of school age. Then being admitted to the regular school instruction, they are recognized by the teacher as unable to keep up with the rest of the class. Their mental condition is thus forced upon them, and their companions, recognizing it, make it a matter of constant comment. In this way the child is unfavorably influenced and the disposition to display the baser qualities is here first noticed and fostered.

The later result is, that the child is removed from school, and the old saw becomes well illustrated, "Satan finds some mischief still for idle hands to do."

These children are midgets in intellect, but become giants in all that is immoral. So the condition goes on with no restraining influence, until the criminal instinct is so manifest that restraint is necessary.

What a different result would be obtained if we were to follow the lead of Germany, England and Switzerland, and see to it that these cases were instructed by special methods. There should be some system devised by our educational bodies, the duty of which it is to attend to these matters of public instruction, by which the mentally enfeebled child could be educated according to its ability, by methods suited to its special requirement.

It may as well be stated right here that any method which has for its aim the improvement of the mental condition, and that alone, will result in failure. The improvement of the physical condition and the correction of such abnormalities as can be rectified are very important parts of the care of this class of cases.

It is the right of every American child that he be given the advantages of the ordinary public school education. In case that right is not appreciated compulsory attendance at school obtains.

If for no fault of either child or parent, but by an unfortunate deprivation by nature, the child is compelled to forego this privilege and right, why should not the commonwealth see to it that that child has the same advantage as its normal brother?

Is it right to compel attendance of the normal child and at the same time bar out the mentally-enfeebled child, simply because his education would mean the application of different methods of instruction suited to him?

These are questions which must be worked out and are being worked out in other countries with

marked success. It will only be by a constant campaign that the mentally-enfeebled child will receive the recognition and care that he requires. We trust that this brief report will result in something more than simply your enlightenment upon this much neglected subject of our work. What is needed is *action*.

LEGRAND KERR, M.D.,  
*Chairman.*

ELIAS H. BARTLEY, M.D.  
BERNARD FEDDE, M.D.

## TRANSACTIONS OF SOCIETIES.

### THE MEDICAL SOCIETY OF THE COUNTY OF KINGS.

STATED MEETING, NOVEMBER 21, 1905.

The President, J. W. FLEMING, M.D., in the Chair.

The meeting was called to order and the minutes of the previous meeting read and approved.

There were about 325 members present.

#### REPORT OF COUNCIL.

The following candidates for membership have been accepted by the Council:

Charles Eastmond, 382 Adelphi St.  
Samuel K. Frost, 810 Washington Ave.  
Horace Greely, 147 Pacific St.  
James M. Kerrigan, 488 Classon Ave.  
John C. Merchant, 162 Engert Ave.  
Alexander Spingarn, 649 Willoughby Ave.

#### APPLICATIONS FOR MEMBERSHIP.

Applications have been received from the following:

Theodore L. Bosseler, 370a Monroe St., L. I. C. H., 1905.

Proposed by F. Siegel, seconded by Membership Committee.

Frederick J. Bruce, 246 Sixth Ave., L. I. C. H., 1887.

Proposed by J. B. Bogart, seconded by Membership Committee.

Horace Greely, 147 Pacific St., L. I. C. H., 1903.

Proposed by John A. Lee., seconded by Membership Committee.

Moses Kahn, 277 Graham Ave., Bellevue, 1903.

Proposed by G. R. Kuhn, seconded by J. A. Lee.

Charles G. Perkins, 881 St. Johns Place,  
Proposed by W. B. Chase, seconded by Carroll Chase.

Frederick Schroeder, Jr., 22 St. Marks Ave.  
L. I. C. H., 1905.

Proposed by M. F. DeLorne, seconded by E. H. Bartley.

Alexander Spingarn, 649 Willoughby Ave.,  
P. & S., 1901.

Proposed by Leon Louria, seconded by J. W. Fleming.

Martin J. Sgier, 1036 Myrtle Ave.

Proposed by M. F. DeLorne, seconded by E. H. Bartley.

#### ELECTION OF NEW MEMBERS.

The following having been duly proposed and accepted by the Council were declared by the President elected to active membership:

George Burkard, 187 Jefferson Ave.

Robert Kingman, 16 Putnam Ave.

John H. Long, 97 Halsey St.

Robert L. Moorehead, German Hospital.

#### DECEASED MEMBERS.

The Chairman of the Historical Committee reported the following deaths:

Joseph B. Jones, M.D., P. & S., N. Y., 1855, member 1860-1876. Died October 9, 1905.

Thomas Addison Jenkins, A. B., M.D., Bellevue, 1897, member 1900-1901. Died October 11, 1905.

Henry Noss, Ph.G., M.D., L. I. C. H., 1891, member 1891-1898. Died November 17, 1905, at Verbank, Dutchess County, New York

#### SCIENTIFIC PROGRAM.

1. Paper: The Strenuous Life of School Children. By Wm. P. Northrup, M.D., New York City.

Discussed by Drs. Gulick, Ager and Kerr and Mr. Wm. L. Felter, Principal, Girls' High School. Closed by Dr. Northrup.

2. Paper: A Plea for Rapid Operative Interference in Carcinoma of the Stomach. By George R. Fowler, M.D.

Discussed by Dr. Joseph D. Bryant, N. Y. City, and Drs. Fuhs and Westbrook. Closed by Dr. Fowler.

There being no further business the meeting adjourned.

JOHN A. LEE,  
*Secretary.*

THE MEDICAL SOCIETY OF THE  
COUNTY OF KINGS.

STATED MEETING, OCTOBER 17, 1905.

The President, J. W. FLEMING, M.D., in the Chair.

PAPER: SURGERY OF THE FEMALE PELVIC FLOOR,  
BY CHARLES JEWETT, M.D.

*Discussion.*

DR. E. B. CRAGIN said that nothing is more valuable in medicine than new light thrown on an old subject, and, therefore, he thought, we could all appreciate the value of the paper by Dr. Jewett. The anatomy and pathology had been so carefully and so well gone into by him, that the speaker could only express himself as in accord with the views of the writer of the paper, and what little he had to say would be along practical lines.

Dr. Cragin thought that one learns more by watching the failures of himself and others than in any other way, and it seemed to him we could learn a good deal about the repair of the pelvic floor by failures of our own and of others. The first point he wished to emphasize as a point of failure is a lack of careful observation of the injury and the being satisfied with an external inspection. It seemed to him that the reason for this lack of careful observation is based largely on the critical views of the laity. One appreciates when he has a laceration of the perineum that he may be criticised by the patient or the friends of the patient, and, therefore, it is only human nature to find everything all right if he can. It is only human nature to inspect the perineum from the external surface, and if that looks all right to say that there is no laceration and leave the patient alone. He may be congratulated by the friends of the patient at the time for not having been unfortunate enough, or unskillful enough, to have a laceration of the perineum, and yet that is just the friend of the patient who is likely to criticise him still more months or years afterward when he or she finds that there is a laceration of the perineum that needs repair, so that it seemed to the speaker that one of the lessons we can learn as an error is a lack of careful inspection of the internal condition.

Occasionally you will hear men say that they never have lacerations of the perineum. He always felt like saying to these men, that it means one of two things: either they have no patients

or else they do not examine their patients as they should. He did not believe that any man or any woman is able to practice obstetrics for any length of time without occasionally having a laceration of the pelvic floor, and he thought it was our duty not only to acknowledge it ourselves, but to educate the public to the fact, that lacerations are apt to occur occasionally even in the best hands; that a man is to blame not that he occasionally has a laceration, but having had it that he does not repair it.

As the speaker had watched the results of operations on the perineum, it seemed to him that another fault, and a very strong one, in the repair of injuries, speaking now of the immediate operation, is the lack of repair at the upper angle of the lesion. He was sure from what Dr. Jewett had said, we could all appreciate that there is a triangular raw surface extending up into the vagina, either on one side or on both sides. It is a very simple matter to bring together the base of this raw triangle and omit the apex, and the result is apt to be this: that if the base only is brought together and not the apex, after the injury has healed, there is a chance for bulging posteriorly of the vaginal wall, or at the time there is a pocket of raw area, into which the lochia may accumulate and become infected, so that one of the errors he thought we could all see was the lack of repair at the upper angle of the tear. One of the most important things, in his judgment is, that the repair of the tear should begin at the extreme apex and then should be continued down to the base of the triangle. These are the two faults that occurred to him as most often met with by those repairing lesions of the pelvic floor or seeing them after they have been repaired.

In regard to the operation, he wished to express himself as in accord with the views enunciated by Dr. Jewett, that the principle of Emmet's operation in the repair of the lateral tears gives the most satisfaction. What one wants in any operation is the restoration of the parts to as near the original condition as possible, and in most of these immediate inspections and immediate repairs you will find a raw triangle on one or both sides of the median line of the vagina, saying nothing about the external tear of the perineal body, and if we are to restore to the original condition the parts that have now been torn, it is only rational that these triangles on one or both sides of the vagina should be closed.

When it comes to the secondary operation, Dr. Cragin said he confessed that he used both the

denudation of the Emmet operation in some cases and the denudation approximating the Hegar in others. If there is a distinct sulci on either side of the vagina it seemed to him that the Emmet operation gives the best results. On the other hand, if you do not find the sulci deep, if the tear seems to be more median than bilateral or unilateral, the Hegar or triangular denudation has served him well in many cases, but where you do have the bilateral tear extending high up in the vagina, he believed that making the triangles as they appear immediately after labor is the best operation; going back over the same ground, restoring the condition present at the time of injury, and then repairing the injury as you would do if seen then.

DR. R. L. DICKINSON said that only the clearness and force of Dr. Jewett's writing could give so graphic an idea of one of the most complicated parts of the anatomy of the body. It seemed to him from long teaching of pelvic anatomy, that it is only in three dimensions that we can really work out and study (on the model or in the dissecting room) this very difficult anatomical relation. Our great obstetric designer of models took a cadaver whose perineum had not been injured, and with a pair of scissors slit through to the sphincter and then reproduced this as a demonstration of a perineal injury. The incision fairly represents the ordinary idea of a perineal injury, yet is as false as possible, because there is no such thing as a tear in the median line. No muscle tears in the median line. No tear occurs straight; it zigzags, and that constitutes the great difficulty in the union. It constitutes the great difficulty in finding out the exact relation of the anatomical structures months or years later.

There are three times for operation: the immediate, the operation months or years later, and the late primary operation. He had learned more about pelvic injuries from operating on severe injuries a few days after the injury had occurred than at any other time. Then there is very little bleeding, the oedema has subsided and the structures can be identified. He advocated this time of operation only for severe cases. In all the mild cases, the lesser tears we unite at once, but with a woman exhausted after a severe labor and with complete lacerations through the sphincter, we have a troublesome and grave operation, and it is becoming more common to wait until the structures are easily identified, yet before granulation or scar tissue has distorted them. Then we can identify every structure. Here is a certain muscle. Pull muscle end to

muscle end. Here is fascia; pull fascia to fascia. Here is hymen edge, on the right, on the left. Here is fourchette, on the right, on the left. We pull the divided parts together. Then we can work out each sulcus up which the tear has gone and unite the edges surely, certainly.

The disadvantage of most repair operations except those of Emmet, is that they make a show result, a good skin surface that appears right from the outside, but do not give a perineal body built up with a long apex to the perineal pyramid, lying close up to, and holding up the anterior vaginal wall. The figure-of-eight suture has the advantage of making a thick body of "perineum." All the sutures need not be of that shape, but only one to three. These may be of silkworm gut—the rest of chromic gut.

The points of most interest are the practical points. No one operation can fit all cases. The Emmet operation is suitable for a majority, but the Emmet operation sometimes leaves a somewhat gaping vulva. Denudation carried far up the posterior wall will certainly do better for the cases that have a large rectocele or a thin-walled septum between the rectum and the vagina. It is the ancient tears which are often the most troublesome. In those in which the lateral structures have atrophied, we cannot claim that we can restore the parts to their original condition. We may have to make a denudation that is not the original shape of the tear. All the cases in which we can recognize a tear up the sulcus should be repaired by sutures up the sulcus, but those that show atrophied tissues may have to have the drawing together of muscular structures that never belonged together, as Dr. Jewett has well said.

DR. G. McNAUGHTON thought that we ought all to feel very grateful to Dr. Jewett for his splendid anatomical exposition. That poor perineum had been written about in a great many ways by a great many different people, all giving different descriptions. Dr. Jewett's review proves that it is an exceedingly complicated structure, and one difficult to describe.

The speaker entirely agreed with Dr. Cragin that the proper time to take care of these injuries is at the time when they occur. One reason why they are not taken care of was mentioned by Dr. Cragin, and another is the condition of demoralization that occurs in the obstetric room. All are tired, the patient, friends and everybody. We do not have sufficient light to inspect the parts, and unless care is taken to place the patient where light can be had, where

an inspection can be made, we do not see these rents. He would particularly mention the fact that the perineum or the lower part of the vagina is not the only part that is injured. Frequently, if a careful inspection is made, one will find rents in the lateral sides and in front sufficient to make considerable hemorrhage. These rents require as careful attention as those in the posterior wall. The anterior wall is more difficult to restore than the posterior. Therefore, he should say, that we need time, light and careful inspection of the parts, and simply replace, as nearly as possible, the relationship which they bore before they were torn and retain them with suture. He thought it makes little difference which suture is used at this time. By placing a suture at the upper angle of the tear we usually stop the hemorrhage.

Another thing that is omitted by most men who attend obstetric cases is a proper perineal support after the birth of the child. We see occasionally a sagging pelvic wall where there has been no rent in the mucous membrane. These parts have been over-stretched until if the patient was in the upright position, it would simply be a condition of prolapse. By supporting that with a perineal pad which has been properly built up much good can be done in this way, and better vaginal drainage is secured.

Another reason that we have trouble after these lacerations is allowing the patient to get up too soon. Some obstetricians allow their patients to get up in a very few days for purposes of urinating with the result of producing more strain on those parts than they are capable of bearing.

He was not willing to totally condemn the flap operation. He had seen some excellent anatomical results, and it is quickly and easily done, and it is not altogether to be tabooed. Occasionally he uses the Hegar operation.

DR. C. R. HYDE said that the anatomical part of the subject had received every consideration, and he would confine his remarks to the Emmet operation, with which he was most familiar. He had seen the Hegar operation done, also, the Tait, but he had never seen either operation repair the posterior wall. He had seen an attempt made by the Noble operation to repair a tear of twenty years duration, and with no results, as the muscles were so atrophied and so small that it was impossible to get a suture to hold them.

He had had an opportunity for eighteen months as an interne to watch Emmet at his work. Emmet has his own peculiar views. In the first place he claimed that the integrity of the peri-

neum depended on the fascia. He also claimed that the term "perineal operation" was incorrect, and he always spoke of his operation as a repair of a laceration of the posterior wall, because he said there was no so-called "perineal body," but only a union of fasciæ, muscles and tendons.

The speaker thought the Emmet operation an ideal one. It does what no other operation does, that is, after completion of this operation it brings the posterior wall of the vagina in close opposition with the anterior wall. When any operation on the posterior wall is done and this opposition is not the result, the operation is a failure. Any operator on the completion of the Emmet operation, if he will take his crown suture and, before tying, tighten it, he can see whether the posterior is in opposition with the anterior wall and whether the result desired has been obtained. The Emmet operation depends on the angle sutures. If they are not introduced properly one will not get the apposition sought for.

The speaker did not agree with Dickinson that the Emmet operation leaves a gaping introitus. If properly done there is no gaping whatever. The introduction of the angle sutures is the important part. In introducing this suture on the pelvic side it should take a deep sweep, to anchor it, as it were. It then goes down to the bottom of the denuded angle a little forward of the point of entrance, picks up the deep tissue to obviate any dead spaces, and on emerging on the crest of the rectocele is introduced deep enough to pick up the rectal fascia. The sutures are introduced in a V-shaped manner.

Emmet used silver wire because he claimed there was an antiseptic action in the wire, and when he twisted the wire he could see if the tissues were strangulated or not. Personally the speaker used chronic or plain cat-gut. He believed it does not make any difference whatever, but he thought interrupted are better than continuous sutures.

Kelly advises the use of the shepherd crook tenaculum. Personally the speaker thought if we use traction strings, one through the crest of the rectocele and one through each caruncle, we get rid of a good deal of junk in the way of instruments and our view is not occluded by the presence of instruments in the way.

The operation repairs the posterior wall. He did not think it restores the posterior wall. He thought there is no operation that will completely restore the posterior wall.

The after-care of these patients is the same as in other plastic cases. He thought it is well to

spray the parts with a mild antiseptic solution after each urination. The sutures can be removed on the seventh to tenth day. If the outside sutures have cut in and left a granulating space, this should be washed with a mild antiseptic solution and dusted with some bland, non-irritating powder.

DR. F. H. STUART thought the point made in regard to the examination of the patient post-partum of greatest importance. It is impossible to make a proper examination immediately after delivery. Oftentimes the light is poor, always there is a great amount of blood issuing from cracks and fissures from the uterus and from the more or less extensive tears. It is therefore impossible for any one to determine the exact extent of the injuries.

Several years ago, in a paper published in the *Philadelphia Medical Journal*, he advocated the procedure of only stopping hemorrhage that seemed to be from extensive lacerations and waiting until the following or second day to examine and repair these injuries. He thought that the damaged condition of women after parturition arises from deficiencies in making a thorough examination as to the exact extent of injury done at the time of parturition. This can only be learned in the daylight when the hemorrhage has ceased, the oedema and the secondary swelling has in a measure subsided. You can then see the actual extent of the injury, and that is the best time to repair it.

He thought with Dr. McNaughton that very often there are tears of the lateral and anterior walls quite away from the location which is usually searched for injuries during parturition. He was in favor of repairing perineal injuries from two to four days after delivery.

Some years ago he saw a patient who was extensively lacerated. The patient had not been thoroughly examined at the time of parturition, and it was six days before the extent of the injury was discovered. The torn surfaces were freshened by rubbing with gauze, then brought together by sutures. It was one of the best results he had ever seen.

The difficulty is as Dr. Cragin had intimated, we are afraid to see much damage. This secondary operation, however, has only this one objection—it makes a real surgical operation after the patient and her friends have supposed that the most trying part of the ordeal was over. He thought that if the matter were properly presented to the patient and friends they would see

that it was the part of wisdom and safety to do the operation afterward.

DR. JEWETT, in closing, thanked the speakers for their endorsement and as well for their criticisms. He wished especially to thank Dr. Cragin for his participation in the discussion. He said that Dr. Dickinson had made one remark which might convey an impression which he did not intend. The speaker ventured to presume that when the doctor spoke of making a thick perineum, he meant one as thick as the original one was. It is a common mistake to assume that the operation is better in proportion as the resulting perineal mass is thicker. Normally the thickness of the pelvic floor differs in different women. We are indebted to the doctor for valuable contributions to the subject.

That the obstetric injuries of the pelvic floor are complicated and obscure, if true at all, is true only of the external and least important part of the laceration. Even here the only essential injuries, so far as support is concerned, are the rupture of the transverse perineal muscles and of their investing fascia. Tears in the vaginal sulcus are always in the same place.

Finally he might say that he had not meant to convey the impression that an operation of the sort under discussion can be done by rule. What he wished to insist upon was that an operation which restores the parts to their original integrity must conform to the Emmet type. It goes without saying that judgment may be used to make the Emmet operation fit the individual case.

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## THE BROOKLYN GYNECOLOGICAL SOCIETY.

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REGULAR MEETING, OCTOBER 6, 1905.

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The President, W. J. CORCORAN, M.D., in the Chair.

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H. C. KEENAN, M.D., Editor.

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### HYSTERECTOMY FOR PROCIDENTIA.

DR. S. J. McNAMARA presented two specimens of uteri removed per vagina for procidentia in patients, between the ages of 50 and 60, following which the vagina was sewed to the broad ligaments. The patients convalesced very rapidly and left the hospital two weeks after the operation. This was the only satisfactory method the speaker had found to deal with these cases. Plastic work and suspension of the uterus did not



relieve them. Any other work than the plan outlined requires much longer detention in bed, and these old people do not do too well under these circumstances. The patients referred to did well after leaving the hospital, and so far as the speaker knew, these cases have less return of symptoms than when other methods have been employed.

In reply to a question as to how long it was since the operations were performed, Dr. McNamara replied that in one case it was six weeks and in the other five weeks.

Replying further to a question as to the manner in which he kept the vagina up afterward in order to prevent prolapse of the vaginal wall, the speaker stated that he takes a suture on each side of the broad ligament, and as it comes down attaches it to the vagina. He has never seen any recurrences. He knew this practice is vigorously opposed by a good many men. Faure, while in this country, operated on a case of his by this method. The patient has done well and has had no return of symptoms after a year. He knew you remove an organ, the "keystone of the arch" as some express it, but the keystone is broken, and he did not see that it serves any further use.

DR. JEWETT asked if the doctor sutured the broad ligaments together at the bases, or sutured the utero-pelvic ligament.

DR. McNAMARA answered in some instances he has sewed the broad ligaments together; the ligatures have been taken with a large grasp or in the broad ligament and then these sutures have been tied together. He has not been able to observe any difference whether he brought the broad ligaments together or left them long. He thought the more important is the suture that catches hold of the broad ligament and brings it up. Whether the broad ligaments should be approximated or not does not make any difference, as the bladder and rectum come together and make as good support as the broad ligaments will.

Answering the query as to whether there was any plastic work done in the lower portion of the vagina, Dr. McNamara replied that in some cases he has done it. In these cases he had not. He thought it unwise to subject old people, whose muscular tissues in the perineum are greatly wasted, to any longer operation than possible.

DR. CHASE inquired if the doctor recommended extirpation of the uterus in procidentia, except in women who have passed the menopause?

DR. McNAMARA said that most decidedly he would not recommend it except in women past

the menopause and those who have to be about and earn a livelihood.

DR. McNAUGHTON asked what the doctor would do if there was a cystocele present, and said that his ideas were directly opposite to those of Dr. McNamara. It seemed to him that the uterus is very small, in many of these cases if you hold it up a few days and allow the congestion to subside. He regarded the uterus as a keystone and better than one you could substitute, and he thought it should be fastened to the abdominal wall. There is no further use for the organ and it can be fixed in the abdominal wall. So long as the abdominal wall will hold, it will sustain the uterus. He thought the preferable operation would be a fixation in these cases, and, personally, he would prefer it. Dr. McNamara's experience had been so different to his that he should like to see his method, as perhaps there was something about it he had not understood. Those cases the speaker had seen hysterectomized had not been satisfactory, and it did not seem a reasonable operation owing to the laxity of the tissues in the pelvic floor. The uterus can be held up by fixation. It requires little time and only a small incision. The convalescence might be a little longer, but he would prefer it so.

DR. CORCORAN asked Dr. McNamara how long after the operation he had seen these cases?

DR. McNAMARA replied that, with the exception of the case operated on by Dr. Faure, he had not been able to trace any of these cases.

#### HYSTERECTOMY FOR CHRONIC ENDOMETRITIS.

DR. A. R. MATHESON exhibited a specimen he obtained from a patient whom he had operated on, October 3d. A little over two years ago her menstrual period was protracted much longer than usual. After her health became considerably impaired, she consulted him, and curettage gave a respite of about six months. The trouble again recurred, with gradually increasing severity, the intervals between menstruation became shorter and shorter, and a second curettage showed papillomatous excrescences present, which were found to be benign in character. This curettage gave but three months respite. The flow continued for three or four months longer, and resisted mechanical and medicinal treatment. During this time she was in the country and in the care of the local physician. She came under his care again three weeks ago and was miserably anemic; the flow was continuous, and the cervix was found to be thickened and indurated. He determined that hysterectomy was necessary, and last Tuesday he operated.

The pathologist informed him to-day that while he has not completed the examination, that the uterus is undoubtedly carcinomatous. His object in presenting this specimen was to raise the question whether it is not best to operate early after the recurrence of those papillomatous growths, which have so decided a tendency to become carcinomatous.

DR. McNAUGHTON thought from the appearance of the specimen that the doctor got the disease quite early. It seemed to him hysterectomy was indicated on account of the hemorrhage, even if one was unable to find malignant disease.

#### HYDROSALPINX.

DR. A. A. HUSSEY showed a specimen of hydrosalpinx. The patient came to him complaining of sterility lasting over a period of seven years. Her trouble dates back to her first puerperium, when she was confined to the bed for several months and to the house for five months. Since then she has been in ill health. She has had no pain, except a little burning in the vagina. Her menstrual periods have been regular, but since the childbirth the flow has been profuse and extending over six days.

The examination previous to operation revealed a retroversion of the first degree, with prolapsed and adherent ovaries. Nothing else could be felt. When the doctor opened the abdomen, the tubes and ovaries were found prolapsed and adherent. The tube on the right side contained a considerable quantity of fluid. The tube on the left side was clubbed. The left tube was opened at the free end, slit up the back for about three quarters of an inch, the flaps sewed back on themselves, and the lower edge of the opening sewed to the adjacent border of the ovary. The right tube was removed. The speaker wanted an expression of opinion as to the probability of pregnancy of such cases.

DR. JEWETT, being called on to answer, said that as far as his experience went, the proportion of cases in which pregnancy occurs after such operations is very small, yet it does occur.

#### FURTHER REPORT ON CASE OPERATED UPON FOR CANCER OF RECTUM.

DR. C. JEWETT said that some months ago he reported to the Society a case in which he had resected several inches of the rectum for cancer. One of the speakers took an unfavorable view of the value of radical operations for cancer of the pelvic organs. The totality of results is not flattering, it is true, yet he did not think these women should all be given up to die. The particular case he reported is an illustration of what

may be done. Her life has already been prolonged a good many months. The operation was done ten months ago, and her physician tells him she has grown quite stout and is now in excellent health and spirits.

#### PROPHYLAXIS OF BLADDER INFECTION.

DR. C. JEWETT called attention to a method which had served him well for preventing bladder infection when the bladder has to be catheterized. It is a rare thing that a patient is subjected to catheterization for many days without showing some evidence of bladder infection. Now and then a serious cystitis may result, particularly after labor, owing to lowered resistance and bruising of the bladder walls, and the more or less septic surroundings; the lochia always contain microbic organisms after the first few days. His practice is to give urotropin,  $7\frac{1}{2}$  grains, t.i.d., so long as the catheter is in use. He has not seen a case of post-partum or post-operative bladder infection since adopting that plan.

#### POSTURE FOR DRAINAGE.

DR. C. JEWETT narrated a case in which drainage was being carried out with the aid of a modified Fowler's position. The operation was done a few days ago for necrotic ovarian cyst with twisted pedicle. The solid and liquid portions of the tumor together weighed 31 pounds. Owing to the size of the solid mass the incision extended from the symphysis to the umbilicus. There were extensive adhesions to the parietal peritoneum, to omentum and to large intestine. The peritoneum was drained through the vagina. For several hours after operation the temperature was 104. It then fell nearly to the normal rising somewhat again later. After the first 24 hours the patient was allowed to sit upright in bed, whereupon it was found the drainage was much improved. It became distinctly less whenever the patient resumed the half sitting posture. The speaker thought that in cases requiring drainage the upright position, when practicable, might prove more effective than the semirecumbent.

Replying to a question as to whether the upright posture had any injurious effect on the incision in the abdominal wall. Dr. Jewett said that so far it had not. The wound was securely held by four crossed sutures of worm-gut over bolsters in addition to the layered sutures.

#### VIOLENT RUPTURE OF A NON-GRAVID UTERUS. AB- DOMINAL SECTION. RECOVERY.

DR. C. JEWETT.—The usual causes of death in rupture of the uterus are collapse, hemorrhage, sepsis.

*Collapse*, though seldom the sole cause of death, is frequently an alarming symptom. As in the case I have to report it is often out of proportion to the apparent severity of the injury. Mere perforation as with the curette, without hemorrhage or sepsis, is attended with little disturbance. There is no apparent reason why uncomplicated rupture should be followed by extreme collapse.

*Hemorrhage* is likely to be present in any case of uterine rupture even though there may be little or no visible bleeding. This materially affects the question of treatment. Since the distinction cannot always be made clinically between hemorrhage and shock, as a rule the abdomen must be opened. While hemorrhage may be recognized by opening the cul-de-sac it can seldom be taken care of except by abdominal section.

*Sepsis* always follows rupture of the uterus in the later months of gestation if the woman survives the shock and hemorrhage. It seldom occurs in simple perforation of the non-gravid uterus. Yet I remember a case in which crural phlebitis had resulted from perforation with a sound of a uterus apparently aseptic and never pregnant.

A few weeks ago a case of uterine rupture came under my care with the following history. The day before she entered the hospital she had been subjected to an operation in a physician's office. Profound collapse immediately followed, and the woman was taken home in a carriage. On the following morning she called in another physician who found her temperature 102 and the uterus lacerated. When she reached the hospital, 24 hours after the accident, she was nearly pulseless at the wrist. The pulse counted over the heart was 130, the temperature a little above 100. There was marked pallor and the general appearance was that of impending death.

Serious injury had evidently been done to the uterus. Little bleeding had been noted externally. How much blood there was in the peritoneum it was impossible to tell clinically. On opening the abdomen a large irregular tear was found in the left latero-posterior aspect of the body of the uterus, the corresponding broad ligament was torn for two inches or more, and there was a perforation, at the middle of the anterior uterine wall, just below the fundus, which admitted the tip of a Keith clamp. The uterus had been split on the left side from the lower border of the cervix nearly to the fundus and the broad ligament into the peritoneal cavity.

The peritoneum contained a few ounces of

bloody serum. The intestines in the vicinity of the uterus were markedly injected, presumably owing to injury by instruments. The wounds in the uterus and broad ligament were closed by suture and the peritoneum was drained through the vagina.

The cervix and the remnant of the pocket in the broad ligament were packed with gauze, which, with the peritoneal drain was removed after 24 hours. The pulse at the close of the operation was 128. Under the use of artificial heat, alcohol, and hypodermoclysis, the woman rallied rapidly. She made a good recovery with no rise of temperature, leaving the hospital at the end of three weeks.

A question I wish to raise is, What is the cause of the profound shock, often witnessed in uterine rupture in induced abortion? Is it not largely due to the rude instrumentation to which peritoneum and intestines frequently are subjected in these cases?

DR. J. C. MACEVITT, in reply to Dr. Jewett's query as to the causes of shock in rupture of the uterus, stated that in all operations on the uterus certain preparations are made to avoid shock. The preparation for two or three days in advance of the elective operation and the care that is given in these cases, is in a manner preventive. These details are lacking where an accidental rupture occurs in a physician's office. The subsequent lack of attention in the succeeding twelve hours would be conducive to shock. He pointed out as possible causes of the production of shock the traumatism, hemorrhage, anxiety, fear and the attendant circumstances.

DR. G. MCNAUGHTON thought there is a difference in the individual. We all see some patients who die of shock after an operation that seems so slight that the result surprises us, and occasionally we see a great deal of laceration in the peritoneum, such as the doctor saw. In other cases he had seen extensive laceration in the peritoneal cavity and there was not much shock. He reaffirmed that there is a great difference in individuals. It does not invariably follow that they suffer from shock to the extent that Dr. Jewett's patient did.

DR. H. C. KEENAN said that with regard to the injury of the intestine causing shock, some years ago he looked up the question of subcutaneous laceration of the intestines. In a large number of cases reported in which there was a laceration due to a blow on the abdomen, shock was absent in probably one-half. In other cases it was present in a short time and

then disappeared. It seemed that the mere fact of injuring the intestine alone he did not think would account for any extreme degree of shock.

DR. CARROLL CHASE thought that the very fact that the operation is illegitimate is a factor in the causation of shock. The patient is frightened. That factor is not present in a legitimate operation.

DR. MCNAMARA believed it is generally admitted death can be caused by shock without the loss of blood.

As to rupture of the uterus he was called in consultation some five weeks ago by a friend who had ruptured the uterus during curetting. The woman was curetted for hemorrhage. When the speaker saw her she was recovering from the anesthetic. There was no evidence of bleeding, so he advised leaving her alone. She convalesced without any other symptoms.

PAPER: "A CLINICAL REVIEW OF SOME RECENT CASES OF TUBAL PREGNANCY," BY S. J. MC NAMARA, M.D.

#### *Discussion.*

DR. C. JEWETT opened the discussion by saying with reference to interstitial or intramural pregnancy, that he had seen it a few times. In one case the pregnancy had gone to the fifth month before rupture occurred.

It should be remembered that a form of pregnancy closely resembling interstitial gestation is pregnancy in the undeveloped horn of a uterus unicornis.

With reference to treatment of the ruptured tube he thought the technic might often be simplified to advantage. In a few instances he had ligated near the pelvic wall and near the uterine cornu in the usual way, emptied the tube, trimmed and sutured the rent and left the tube in situ. It is not always necessary to take it out. The condition of the tube is one of physiologic hypertrophy and hyperplasia and the thickening soon disappears. In one case in emergency he had left the rent unsutured. It is a question whether we need to do so much surgery as is usually done in these cases.

Another point which he had mentioned in previous discussions: It would be of interest if gentlemen would note how often they find rupture and how often tubal abortion. Tubal abortion is believed to occur three times where rupture occurs once, and yet the tubal abortions are not so often seen in the cases we operate upon. When tubal abortion occurs, if the entire ovum is expelled promptly from the tube, there is not much

bleeding, and a good many of these cases recover without operation.

If on the other hand the ovum remains hanging in the mouth of the tube, bleeding is likely to continue. This is analagous to what we know is true in abortion in uterogestation. A pretty free uterine hemorrhage stops as soon as we remove the secundines. While the contractile power of the tube is not equal to that of the uterus it is usually sufficient to control the vessels.

DR. G. MCNAUGHTON said that with reference to cases of tubal abortion, he had seen quite a number of them. Usually there is a rupture, but where abortion has taken place there may be a great deal of hemorrhage. He has been surprised at the amount and wondered where it came from. He believed a good many cases of tubal pregnancy occur and the women recover without operation, because we see quite a number of cases that give quite a typical history and yet they remain unoperated and recover. He believed that occurs more often than we suppose.

As to the case reported by Dr. McNamara, in which he supposed a double tubal pregnancy existed, it seemed to the speaker it is quite a common thing when a hemorrhage occurs at the time of rupture, that some blood is thrown into the other tube. He had seen the tube so enlarged from this source, that without the point of rupture, it would have been difficult to tell which tube was involved in the pregnancy. The hemorrhage occurs in the opposite tube just as we have a hemorrhage into the uterus, and he has seen the opposite tube distended just as much as the tube that was ruptured. He had, however, never seen a case of interstitial pregnancy.

DR. J. C. MACEVITT continuing the discussion, said that interstitial pregnancy is about as Dr. Jewett had explained, and as defined by Reed occurs at the cornu of the uterus and the tube.

In reference to tubal abortions, while it was his opinion that probably one-half or three-quarters of the cases that take place at the third or fourth week are unrecognized, and that in the vast majority of cases the women recover from these conditions, oftentimes the hemorrhage requires opening the abdomen and sometimes causes death.

Not long ago he saw a case following operation for supposed rupture due to tubal pregnancy. The abdomen was found partly filled with blood, some of it clotted. It was simply washed out with saline solution. The operator was unable to find any rupture of either tube; they seemed to be intact. No attempt was made to tie off the tubes.

The woman within twenty-four hours showed a weak pulse and commencing pallor. This increased to such an extent that internal hemorrhage was diagnosed and an operation proposed. In the interim the woman died. The abdomen when opened was found to be full of blood. The hemorrhage was evidently from a tubal abortion with a limited amount of active hemorrhage, so slight in fact as to be overlooked.

In one of Dr. McNamara's specimens the uterus had been removed and the speaker asked why this had been done. One tube appears to be in good condition; the other, of course, showed the result of the tubal conception, but why was the uterus removed? It appeared normal.

DR. S. J. McNAMARA replied that the uterus was removed from the fact that the tubal pregnancy took up such an extensive portion of the pelvis that it would necessitate opening up the uterine body to such an extent that it would leave a very atrophied uterus, and another reason was that the hemorrhage was very extensive and the adhesions were extensive and produced considerable hemorrhage. He did not know how extensive that hemorrhage was until he took the uterus out. An exsection of the cornu would leave a very poor uterus.

As regards the treatment of tubal abortion, he would like to know if Dr. Jewett would advise emptying out the tube and leaving the tube intact if there was no hemorrhage at the time of operation?

DR. JEWETT answered if the tube is entirely empty, he did not think there is much risk of hemorrhage. He could not say there is not any.

#### BROOKLYN MEDICAL SOCIETY

The one hundred and first regular monthly meeting of the Brooklyn Medical Society was held on the evening of Friday, March 17, 1905.

The President, Dr. R. W. Westbrook, in the chair.

Minutes of previous meeting read and adopted.

Application for associate membership, Dr. William A. Myers, proposed by Dr. John H. Droge and seconded by Dr. Alfred Bell.

Admission to membership.—To associate membership: Dr. B. F. M. Blake. To membership: Dr. J. C. McEvitt, Dr. Thurston Dexter, Dr. H. F. McChesney.

Clinical Section. 1. Dr. Algernon T. Bristow.

(a) Case of Rhinophyma, with Exhibition of patient after operation. He also showed photos taken before operation.

(b) Report of a Case of Avulsion of the Auriculo-temporal Nerve in a case of persistent neuralgia.

2. Dr. J. E. Jennings: Report of a Case of Cyst of the Thyroid.

3. Dr. John Kepke: Report of a Case of Tumor of the Breast, with exhibition of specimen. This case was discussed by Drs. Sullivan and Simmons.

Paper: "A Glance Into the Past—with Exhibition of Specimen," Dr. John Kepke. The paper dealt with an old medical book, written in the seventeenth century. Discussion by Drs. Westbrook, Meeker, Gibbons, Sullivan, Scott, and Rogers.

A short business meeting followed, in which the report of the committee having in charge the recent dinner was read and accepted.

HUGH EDWARD ROGERS, M.D.,  
Recording Secretary.

The one hundred and second regular monthly meeting of the Brooklyn Medical Society was held on the evening of Friday, April 21, 1905. The President, Dr. R. W. Westbrook, in the chair.

Applications for membership: Dr. V. N. Weed, 1164 Halsey Street, P. and S., 1900.

Admission to associate membership, Dr. William A. Myers.

A letter from Edward M. Grout, Controller of the City of New York, was read, asking the Brooklyn Medical Society to put itself on record as being in favor of the establishment of the University of Brooklyn. On motion duly made, seconded and carried, this letter was laid on the table.

Clinical Section: 1. Dr. John O. Polak: (a) Report of a Case of Cancer of the Uterus with exhibition of specimen. (b) Report of the Treatment of a Case of Puerperal Septicæmia, with the use of collargum.

Dr. Charles Jewett, in discussing the case of cancer of the uterus, called attention to Heitzman's Method of differential diagnosis between the cases of erosion and malignant growth, by the use of copper sulphate. In the case of erosion the surface turned white, and in the case of malignant growth there was hemorrhage. He also advocated the use of collargum in the treatment of cases of septicæmia, and spoke of the efficiency of intravenous injections of antiseptic solutions in these cases.

Dr. Walter B. Chase said that the radical operation for cancer of the uterus had, in many cases, resulted satisfactorily, and that the advisability

of operation in these cases is receiving more attention.

Dr. L. Grant Baldwin presented a most interesting series of calculi from the genito-urinary tract: (a) A vesical calculus from a woman 56 years old, who had used a catheter for fifteen years without suspecting stone. (b) A calcareous degeneration of a fibroid, found in the centre of a malignant mass in a cancerous uterus. (c) Two specimens of a calcareous degeneration of each ovary found on operation. (d) A vesical calculus the size of a hen's egg. (e) A renal stone removed from a woman 6 weeks after delivery, was found in a pus kidney.

3. Dr. Walter C. Wood read a report of a case of a cyst of the mesentery, which he had removed.

Papers: "The Physician as a Business Man," Dr. Walter B. Chase; "The Collection of Accounts from a Physician's Standpoint," Dr. Frank H. Clark; "The Collection of Physicians' Accounts from the Legal Standpoint," Mr. Darwin J. Meserole.

Discussion by Drs. F. D. Bailey, Chas. Jewett, Fleming, J. D. Sullivan, Wheeler, Brader, J. R. Kevin.

HUGH EDWARD ROGERS, M.D.,

Recording Secretary.

The one hundred and third regular monthly meeting of the Brooklyn Medical Society was held on the evening of Friday, May 19, 1905. The chair was occupied by the Vice-president, Dr. Alfred Bell.

Application for membership: Dr. William Neuss, 774 Quincy Street: proposed by Dr. Scott. Admission to membership: Dr. Ver Nooy W. Weed.

Clinical Section: Dr. C. F. Herman read a report of Disseminated Tuberculosis of the Skin.

Paper: "Strabismus," Dr. E. W. Wright. Discussed by Drs. Vandergrift and Ingals.

On motion, duly made, seconded, and carried, the secretary was instructed to send a letter of condolence to the family of Dr. Lester Page Hooley, one of our members who had recently died.

HUGH EDWARD ROGERS, M.D.

Recording Secretary.

The one hundred and fourth regular monthly meeting of the Brooklyn Medical Society was held on the evening of Friday, June 16, 1905, Dr. Westbrook in the chair.

Dr. Chas. Tag acted as Secretary *pro tem*.

Dr. William Neuss was admitted to membership.

Clinical Session: 1. Dr. Charles Jewett reported a case of extensive rupture of the non-gravid uterus.

Dr. Clayland read a report of a case of abscess of the liver, also reports of extra-uterine pregnancies and also a case upon which he called for a diagnosis.

Paper: "The Problems of Early Diagnosis and Treatment of Cancer of the Stomach." Dr. R. W. Westbrook.

General discussion.

HUGH EDWARD ROGERS, M.D.,

Recording Secretary.

The one hundred and fifth regular monthly meeting of the Brooklyn Medical Society was held on the evening of Friday, September 15, 1905. The Vice-president, Dr. Alfred Bell, occupied the chair.

Application for membership: Dr. L. L. Cohen, 57 Tompkins Avenue.

Clinical Section: Dr. W. H. Rankin, chairman.

Dr. Alfred Bell, a member of the Milk Commission, in a short address, told of the good work being done by that commission. He spoke of the use of certified milk for infants and children. That he regarded it as a great advance from a scientific standpoint, and said it was only a question of time when mothers would consider it a necessary household article.

Dr. Harris Moak, pathologist in the Milk Commission, discussed Dr. Bell's remarks very intelligently. He spoke of his work done as a pathologist, and of having visited the different dairies, and seeing with his own eyes the preparation of the certified milk, from the time it left the cow until it was bottled and sealed with the stamp of the Milk Commission. He emphasized the paramount importance of the feeding of babies and the use of proper milk, and said that certified milk came as near to the ideal as possible.

The general discussion which followed showed the interest manifested by the members of the society in the subject.

HUGH EDWARD ROGERS, M.D.,

Recording Secretary.

The one hundred and sixth regular monthly meeting of the Brooklyn Medical Society was held on the evening of Friday, October 20, 1905. Dr. R. W. Westbrook in the chair.

Dr. L. L. Cohen admitted to membership.

Clinical Section: Dr. James Pullman, chairman.

1. Dr. James C. Kennedy read the reports of two very interesting cases: (a) being a case of perforation of the posterior wall of the stomach, caused, perhaps, by an ulcer, which was closed

by an adherent pancreas. He demonstrated the fact of the difficulty of diagnosis in these cases, and the necessity for an exploratory laparotomy to determine the exact condition. The patient was an Italian woman, 40 years old. Stomach distress brought on a great deal of emaciation. A thin abdominal wall permitted of palpation of the abdominal viscera with the greatest satisfaction, with negative results, except slight pain on the deepest pressure over the region of the stomach. Careful examination of the blood, stomach contents and urine, revealed nothing. Because of the possibility of reflected pain the diagnosis of gall bladder disease was made by eminent diagnosticians in consultation. Exploratory laparotomy was made and the gall bladder was found normal. Exploration of the neighboring organs revealed a small indurated area in the stomach region. An opening as for a gastro-enterectomy was made, and when the stomach was turned back the pancreas was found adherent to its posterior walls. After careful separation an opening, the size of a ten cent piece, was found in the stomach wall. This was sutured with silk, and the detached portion of the pancreas cauterized. With appropriate after-treatment the patient made an uneventful recovery.

The cause of the pain and distress was the interference with the stomach peristalsis, together with the weight of the ingesta. Nature's cure left a smooth mucous membrane, and the absence of malignant disease made the examination of the stomach contents negative, in so far as the diagnosis was concerned. The uselessness of palpation in this case was caused by the slight amount of induration, being on the posterior of the stomach, and covered by the soft tissues of the pancreas, the small size of the walled-off opening, and the smooth surface of the anterior wall. Hence the utter impossibility of a positive diagnosis being made by subjective symptoms alone, and the necessity of exploratory incision.

Dr. Kennedy also reported a case of imperforate anus, with a recto-urethral, a recto-penal fistula, complicated with post-urethro-rectal fistula, in a child 36 hours old. The penile fistula was midway between the scrotum and the glans penis. Abdomen was distended: it was restless; meconium protruded through the meatus and the penile fistula with each straining effort. Ischial tuberosities being well separated, the perineum fairly well developed; bulging was detected at the natural site of the anus. Communication being, in all probability, recto-urethral, it was thought proper to find the bowel from the perineum: it was also thought wise not to make any

effort to separate it from the adjacent urethra, leaving the recto-urethral fistula to heal after a suitable change had been made for emptying the bowels. After some difficulty the bowel was found, brought down, and an anus made. The recto-penal and the recto-urethral fistulæ are now closed, but for the time there remained a post-urethral rectum which, the mother states, never operated except when enemas were given. This fistula terminated at the penal fistula. This is never closed at the rectal extremity, but there still remains a blind pouch which is, perhaps, a quarter of an inch in depth, which will probably close in due time. The artificial anus is satisfactory in so far as it could be observed; the child enjoying excellent health.

In closing, Dr. Kennedy said that he contended that, in the treatment of fistulæ in this and other localities, the surgeon should give nature ample time to bring about a cure before resorting to radical measures, and that, as shown in this case, we can trust nature to close a recto-urethral fistula.

Dr. Peter Scott exhibited a patient who had a bilateral malformation of the clavicles.

Dr. Silas C. Blaisdell exhibited a patient, a boy, who had had an extensive fracture of the skull, upon whom he had operated. The fracture extended from the right ear over the occiput to the region of the left ear. He also demonstrated a rongeur which he had used in the operation. He also exhibited a patient upon whom he had operated for an enormously large fatty tumor, and showed photos taken before and after the operation.

Paper: "Chronic Gonorrhea," Dr. G. Morgan Muren. Discussed by Drs. Scott, Sullivan, and Bartley.

General Discussion: "The Present Unsafe Condition of the Brooklyn Water Supply and Methods for Its Improvement."

Dr. E. H. Bartley opened the discussion, by saying that there was nothing new in the water question, that the same thing had been heard for fifteen years. He called attention to the series of papers, in 1900, by eminent specialists on the subject dealing with the question of supply, the bacteriology and purification by filtration. He pointed out the dangers of increasing contamination, because Long Island is becoming more and more thickly settled.

The sources of supply, he showed, were from surface streams which drained farm lands, barn yards, and privy vaults. Recent investigation had discovered the colon bacillus. A case of



typhoid had been discovered on the border of one of these streams which received the overflow from a cesspool in the rear of the house. Epidemic was prevented by hasty action.

He spoke of the system of patrolling the streams advocated by the commission in 1900. The plan was slowly adopted. The presence of the bacillus coli communis was demonstrated, as was the presence of the malarial organisms in 1892 and 1896.

He then came to the discussion of *sand filtration* of all the surface water of our water sheds. He considered it our only protection. It has been shown that sand filtration would remove from 97 to 99 per cent. of micro-organisms, when the water is passed, at the rate of 2,000,000 gallons per acre per day. 100 bacteria per 1 c.c. being the limit of potable water. The estimated daily yield of the surface streams and ponds of our system is about 40,000,000 gallons. This would require about 20 acres of sand beds for efficient filtration. As these beds must be occasionally aired and cleaned it will be necessary to construct double this area or 40 acres (one-quarter square mile), allowances being made for water waste at pond's overflow and storage.

He said that wells are safe without filtration. Dr. Koch, of Germany, and Dr. Kempster, of England, agree that the cholera germ cannot filter through more than from 4 to 5 feet of earth. Protect the top of the well and fill with gravel or sand.

He closed his remarks by advocating the establishment of the proper method for the purification of the water, preferably by sand filtration.

Dr. Brundage continued the discussion. It was also participated in by Drs. W. B. Chase, J. D. Sullivan, J. C. Kennedy, Pater C. Scott, R. W. Westbrook, and others.

Dr. Westbrook read a resolution apropos to the water question, to be presented to the Borough President, and through him to the Board of Estimate. Because of its phraseology, considerable discussion arose and on motion, duly made, seconded, and carried, a committee of three was appointed to consider the matter and draw up proper resolutions, and report at the next meeting.

HUGH EDWARD ROGERS, M.D.,

Recording Secretary.

The one hundred and seventh regular meeting of the Brooklyn Medical Society was held on the evening of Friday, November 18, 1905.

The president, Dr. Westbrook, in the chair.

Minutes of previous meeting read and adopted.

The committee, composed of Dr. R. W. Westbrook, Dr. Alfred Bell and Dr. W. H. Rankin,

appointed to draft resolutions on the opinions of our society on the water supply question, reported, and through the chairman, Dr. Bell, the following resolutions were read:

That Whereas, The continual presence of the abnormal percentage of typhoid fever in Brooklyn in recent years demonstrated beyond question the contamination of its water supply and the possibility of a more serious outbreak at any time of the disease,

Whereas, It has been thoroughly demonstrated that sand filtration, as practised by municipalities in this country and abroad, is a practicable method of rendering a water supply essentially safe; and,

Whereas, That it is a reflection on the intelligence of this community, that it tolerate continued loss of time and life through preventable disease, when a remedy can be quickly applied at moderate expense as shown by the investigation of the present president of the Board of Health; be it

*Resolved*, That the Brooklyn Medical Society urge the Board of Estimate and Apportionment to provide for this borough an adequate filtration plant at the earliest possible date, it being the opinion of this body that it is the only practicable plan which can be put into early operation among those which have been presented for the consideration of the city authorities

DR. ALFRED BELL, Chairman.

DR. W. W. RANKIN,

DR. R. W. WESTBROOK,

Committee.

Clinical Section.—Dr. C. E. Scofield read the reports of three cases of mastoditis in children.

Paper: "Post Operative Paresis," Dr. R. S. Fowler.

Discussed by Dr. W. J. Cruickshank and others.

Address: "The Legal Aspects of the Relation of Doctor and Patient." Hon. James D. Bell.

Clear, concise and instructive, not only in the paper which he read, but in his remarks and answers to all questions put to him on various questions pertaining to the different aspects of the law. A rising vote of thanks was tendered to Col. Bell for his courtesy in addressing this society.

The secretary was instructed to send a letter of condolence to the family of the late Counsellor Frank J. Doyle, who had died recently, who had been for several years our legal representative.

HUGH EDWARD ROGERS, M.D.,

Recording Secretary.

# Brooklyn Medical Journal.

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Editor-in-Chief.

JAMES MCF. WINFIELD, M. D.  
JOHN A. LEE, M. D.  
Associate Editors.

CLARENCE R. HYDE, M. D.  
Medical News Editor.

G. L. HARRINGTON,  
Business Manager.

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BROOKLYN-NEW YORK, DECEMBER, 1905.

## MEDICAL PRACTICE LAW OF THE STATE.

The Medical Practice Law of the State of New York is considered one of the best of its kind in this country. It requires all licensed practitioners of the healing art to study four years in a recognized medical school, to pass an examination in medical science conducted by the State, and to be registered. This law seems, on its face, sufficient to protect the people from unqualified practitioners and the evils of medical quackery, but does it really do so?

There are over 700 Osteopathic "physicians" in Greater New York and a great many Christian Scientist practitioners. Both these dangerous classes of medical quacks freely treat all morbid conditions, but in their treatment they use, exclusively, agents other than drugs. Another class, however, the nostrum advertisers, who probably treat more patients than all other medical quacks combined, use drugs only. They practice through the newspapers, suggesting to readers of their advertisements, diagnoses, and with the diagnoses giving prescriptions for secret drug compounds, which can be filled at the nearest pharmacy.

It is very apparent from these facts that our present medical practice law does not protect the people from unqualified medical practitioners. It is evident that it does not prevent anyone, no matter how ignorant of medical science, from practicing the healing art and treating all kinds of disease or injury to which humanity is liable by any method he pleases. The only restrictions which this sham of a law lays on him are the

following, and they have no real force or importance. The unlicensed quack must not prescribe drugs face to face with his patient, though he may directly prescribe any other therapeutic agent. If he wants to prescribe drugs he must do so through some intermediary, and this intermediary may be an absolutely irresponsible one, such as a newspaper or a board fence. And the unlicensed quack has not the privilege of signing death certificates.

Plainly, it is for the interest of the public that this law be amended, and it should be amended by defining with such fulness and clearness what constitutes the practice of medicine that no corrupt or demagogic judge can escape from or twist the definition. The practice of medicine should be defined as the treatment of any injury or disease affecting the human organism, by any agent whatever, whether drugs or diet, massage or the knife, electricity or expectancy, sunshine or suggestion, exercise or anything else. Also, the advertisement of nostrums should be stopped, which could be most effectively done by compelling the manufacturers to publish the formula on every bottle.

No doubt, any attempt to pass such a medical practice law as the one above described, which would truly protect the people from medical quackery, would meet strong opposition. The quacks of all sorts would oppose it; and when a measure for the public good is opposed by private interests, the private interests usually win, unless there is an overwhelming public sentiment in favor of the measure, which is not the case in this instance. The people are mostly indifferent to the evils which come to them from free quackery, because they are largely ignorant of them. The newspapers, which should have instructed them, and created a public sentiment in favor of protection from these evils, are silent on this subject, being bribed by the tainted money which they receive from the advertising quacks and the manufacturers of nostrums. Instead of informing the people, and rousing public sentiment in favor of a proper medical practice law, the newspapers would even oppose such a law, as they have already done in some western states. But the first line of opposition would be the quacks themselves. They would take money to Albany, and the past history of our state legislature does not encourage us to doubt that this money would talk there more convincingly than the representatives of our county medical societies. And there are many of the people themselves who would oppose a properly protective law on the ground that it

would interfere with their liberty to be swindled and humbugged and physically injured as much as they like.

Our only hope of getting laws which will give the people protection against quackery lies in educating public sentiment. We cannot hope that the newspapers will do this because they have been bribed with dirty money to work against it. We must do the work largely ourselves, with such valuable, though rare, assistance as that which a well-known New York weekly is now giving. Our profession has for its unselfish object not only the cure of disease, but its prevention, and it is as much in the line of our professional duty to prevent injurious treatment as to prevent disease itself.

E. E. C.

#### THE BROOKLYN EYE AND EAR HOSPITAL.

The old Brooklyn Eye and Ear Hospital on Livingston Street is facing a rather critical period in its history. The widening of Livingston Street, which will be begun at once, will leave the building a practical wreck, while as yet no definite plans for its rebuilding have been perfected.

The difficulty is a financial one. A sum of \$150,000 above the \$65,000 to be paid by the city as an indemnity for the building is needed to erect a new structure of fire-proof construction, with equipments of a modern institution. The need of immediately raising a large part of this sum is imperative. An indefinite intermission of the work of the hospital would seriously threaten its existence. In this crisis the Board of Directors of the hospital is casting about to find means of meeting the emergency, but no formulated plan of procedure has as yet been evolved which seems sufficiently adequate.

The lay Board of Directors include the names of Messrs. Cornelius D. Wood, Alexander E. Orr, Thomas E. Stillman, John Claflin, Abbott L. Dow, Crowell Hadden, S. B. Chittenden, Carl H. De Silver, Rev. Dr. H. P. Dewey, Isaac H. Cary, Edgar McDonald, John J. Pierrepont, John S. Frothingham and Robert B. Woodward.

## MEDICAL NEWS.

EDITED BY CLARENCE REGINALD HYDE, M.D.

*It is earnestly hoped that all members of the profession possessing news concerning themselves or their friends, which would interest others, will communicate the same to the News Editor before the 9th of each month. Items for this department should be sent promptly to Clarence Reginald Hyde, M.D., 126 Joralemon Street.*

Dr. George Gray Ward, Jr. (L. I. C. H., 1890), has removed to 77 West Fiftieth Street, Manhattan.

Dr. Thomas R. French, of 150 Joralemon Street, announces future office hours from 11 A. M. to 1 P. M., and by appointment, Sunday, from 3 to 5.

Dr. and Mrs. Henry W. Schreiber announce the marriage of their daughter, Elise, to Dr. George Clinton Straub, of Brooklyn.

Miss Emily Mathias Cox, the daughter of Dr. and Mrs. Charles N. Cox, and Mr. Alonzo C. Bell were married November 21, 1905.

The marriage of Dr. Lewis N. Foote and Mrs. Mabel Shull Ackler took place at Utica, New York, November 15, 1905. Dr. and Mrs. Foote will reside at 147 Hancock Street.

The Brooklyn Gynecological has elected the following officers for 1905-6: President, John O. Polak; Vice-President, Ralph H. Pomeroy; Second Vice-President, Frederick J. Shoop; Recording Secretary, Augustus A. Hussey; Corresponding Secretary, Victor L. Zimmermann; Treasurer, Joseph F. Todd; Pathologist, Charles L. Fincke.

The New York Obstetrical Society has elected the following officers for 1905-6: President, Le Roy Broun; First Vice-President, James N. West; Second Vice-President, W. E. Studdiford; Recording Secretary, W. S. Stone; Assistant Recording Secretary, H. C. Taylor; Corresponding Secretary, E. E. Tull; Treasurer, J. Lee Morrill; Pathologist, Franklin A. Dorman.

Colonel William E. Stokes, of the 23d Regiment, has withdrawn his resignation as President of the Board of Trustees of the Williamsburgh Hospital, and presided at the last meeting of the Board on November 9th, at which the following gentlemen were elected as additional members of the Board: The Reverend Newell Woolsey Wells, D.D., John C. Kerr, and Hugh De Haven.

Dr. Henry P. de Forest announces his change of address from 124 to 150 West 47th Street, New York City. On Monday, Wednesday and

Friday afternoons he has office hours at his residence, 369 Hancock Street.

The crying need of system in our hospital management was brought out the other night in a lecture before the New York Academy of Medicine by Professor Gerster. He contrasted the New York hospitals, where the cost of care averages close to \$2 a day for each patient, with those of Germany, where the cost is from 30 to 35 cents a day. He said that deficits of \$80,000 to \$90,000 a year are not uncommon in New York hospitals, and that this result is due to the lack of system by which they are conducted. The remedy he suggested was the employment of a high priced and highly trained superintendent for each hospital, who should conduct the institution for the benefit of the patients, and not for that of the doctors.—*Brooklyn Eagle*.

Dr. Paul Monroe Pilcher has been appointed assistant surgeon of the grade of first lieutenant, with rank from October 23d, Squadron C, Cavalry.

The following names have been certified for appointment in the city's service, Department of Correction, resident physicians:—Moses Keschner, 264 East Seventh Street, Manhattan; Samuel L. Ausbacher, 1869 Madison Avenue, Manhattan; William W. Bostwick, 551 West One Hundred and Fifty-second Street, Manhattan; Herman O. Wolff, 88 East One Hundred and Eighth Street, Manhattan; William V. Pascual, 607 St. Marks Avenue, Brooklyn; John M. Taylor, 438 Third Street, Brooklyn; Nathaniel P. Rathbun, 240 Greene Avenue, Brooklyn; Clarence H. Smith, 841 East One Hundred and Sixty-fifth Street, Manhattan; Edgar H. Farr, 321 West Forty-sixth street, Manhattan; Benjamin R. Tupper, 203 West Eighty-fifth Street, Manhattan; Samuel M. B. A. Moore, 140 West Eightieth Street, Manhattan; James E. Blake, 352 Jefferson Avenue, Brooklyn; James J. Grady, 996 Washington Avenue, Manhattan; Abraham Bernstein, 318 East Fourth Street, Manhattan; Rosalie Bell, 398 Fourth Street, Brooklyn; Franklin S. Palmer, 120 Broadway, Manhattan; Belle J. McDonald, 324 West Fifty-first Street, Manhattan; Thomas B. Hegeman, 2603 Newkirk Avenue, Brooklyn.

The Cumberland Street Hospital Alumni Association held its annual meeting and banquet recently at the Lincoln Club House. President W. S. Searles, M.D., was in the chair. There are seventy-six members, and nearly all were present. Edward Chapin, M.D., was elected President; O. S. Ritch, M.D., Secretary, and

G. S. Ogden, M.D., Treasurer. Six were elected to membership, and Dr. Charles Bacon was elected as the first honorary member. President Searles introduced the speakers of the evening, Dr. John F. Fitzgerald, General Superintendent of Hospitals, who spoke on "The Management of Hospitals"; Dr. Bacon, Superintendent of Cumberland Street Hospital, spoke of the work of the hospital; ex-President J. Lester Keep and William M. Butler, M.D., spoke of the earlier work in the institution. William L. Lane, M.D., responded to the toast, "To the Ladies." Ralph Lyodd, M.D., and W. S. Shrewsbury, M.D., made addresses.

Dr. R. G. Eccles (L. I. C. H., 1882), accompanied by his wife, expects to start in July, 1906, for two tours around the world. The first takes in Manchuria, Japan, Corea, China, Philippine Islands, Siam, Burmah, India, Ceylon, Egypt, Holy Land, Turkey, Greece, Morocco, Spain and Portugal to Great Britain, where he will arrive in July, 1907. From a point in the British Isles he will make his start for his second tour, which takes in Central Africa, Australia, New Zealand, Van Dieman's Land and South America. He will return to New York July, 1908.

A dinner in celebration of Dr. Charles Jewett's twenty years of service at and in aid of the hospital, was tendered to him by the staff and directors of the Bushwick Hospital at the Assembly.

A reception was given in honor of Shigemichi Suzuki, Surgeon-General of the Imperial Japanese Navy, and late Surgeon-in-Chief of the combined fleets under Admiral Togo, by the Medical Society of the County of Kings, at 1313 Bedford Avenue, on Monday evening, November 27, 1905. Entertainment was gracefully contributed by Professor Henry Evans Northrop.

At a meeting of the Nassau Lodge, No. 536, on November 9, 1905, an address on "Washington as a Mason," was delivered by W. William Schroeder, M.D.

At the last regular meeting of the Pediatric Section the annual election of officers took place. The following were elected for the ensuing year: President, LeGrand Kerr; Vice-President, Louis C. Ager; Secretary-Treasurer, Archibald Smith.

This Society is rapidly coming to the front as an important section. One feature of the meetings is that the interest is so great that frequently a paper is held over until a subsequent meeting because of the length of the discussion of preceding papers.

## BOOK REVIEWS.

**HYGIENE AND PUBLIC HEALTH.** By B. Arthur Whittelegge, C.B., and George Newman, M.D., D.P.H., F.R.S.E. *New Edition, Revised, Enlarged, and in part Rewritten.* Chicago, W. T. Keener & Co., 1905. viii., 636 pp. 16mo. Price: Cloth, \$1.75.

This manual has run through a large number of editions, and the aims of its authors have evidently been to make each one better than its predecessors. It can be safely commended as a work which contains all the essentials of hygiene with which a public health officer should be acquainted. An enumeration of its chapters conveys the scope of its field of usefulness: Air, Meteorology, Water, Food, Soil, Buildings, Schools, Hospitals, Removal of Refuse, Disposal of the Dead, Animal Parasites, Infection, Disinfection, Specific Diseases, Tropical Diseases, Prevention of Infectious Diseases, Medical Officers of Health and Sanitary Inspection, Sanitary Laws, Factories and Workshops, By-Laws and Regulations, Vital Statistics. Almost every chapter is a well balanced consideration of the various topics discussed.

**MODERN CLINICAL MEDICINE.—INFECTIOUS DISEASES.** Edited by J. C. Wilson, A.M., M.D. An authorized Translation from "Die Deutsche Klinik," Under the General Supervision of Julius L. Salinger, M.D. New York and London, D. Appleton & Co., 1905. xiv., 925 pp., 11., 2 col. pl. 8vo. Price: Cloth, \$6.00.

This work is one of the finest and best that has ever been written upon the subject of infectious diseases. The authors of this volume are among the best known clinicians of the modern German school of medicine; the names of the American editors are a guarantee of expert supervision and satisfactory translation. This, and the following volumes (to be published), will be indispensable acquisitions to the internist.

G. R. B.

**ADDRESSES AND OTHER PAPERS.** By William Williams Keen, M.D., LL.D., F.R.C.S. (Hon.). Philadelphia and London, W. B. Saunders & Co., 1905. Front., vi., 441 pp., 9 pl. 8 vo. Price: Cloth, \$3.75.

On looking over this very interesting series of addresses, of which the later ones are familiar to students of current medical literature, one may readily see why there was a demand for their collection and publication in book form. Of the variety of subjects treated by this well-known surgeon, the large majority are of much more than local interest and will well repay perusal.

G. R. B.

**A MANUAL OF PRACTICAL HYGIENE FOR STUDENTS, PHYSICIANS, AND MEDICAL OFFICERS.** By Charles Harrington, M.D., Assistant Professor of Hygiene in the Medical School of Harvard University. *Third Edition, revised and enlarged.* Philadelphia and New York, Lea Brothers & Co., 1905. 12, 17-793 pp., 8 pl., 4 col. pl. 8vo. Price: Cloth, \$4.25.

The third edition of this well-known work bears traces of a thorough enlargement and careful revision. As it stands it is a most sufficient presentation of the hygiene, general, personal, and military, of to-day.

G. R. B.

**A SYSTEM OF PHYSIOLOGIC THERAPEUTICS.** Edited by Solomon Solis Cohen, A.M., M.D. Vol. XI. Serotherapy, Organotherapy, Blood-Letting, Radium, etc., Digest, Indexes. Philadelphia, P. Blakiston's Son & Co., 1905. v-xiii. p., 11., 17-388 p. 8vo. Price: Cloth, \$2.50.

The final volume of this system is at hand, thus completing a most remarkable and useful work. The whole undertaking reflects vast credit upon the editor and his collaborators, and should be to him and to them a source of honorable pride. It is a great pity that the volumes cannot be bought separately.

G. R. B.

**CLINICAL DIAGNOSIS AND URINALYSIS.** A Manual for Students and Practitioners. By James Rae Arneill, A.B., M.D. Philadelphia and New York, Lea Brothers & Co., 1905. Col. front., 17-244 pp., 12 mo. Price: Cloth, \$1.00. (*The Medical Epitome Series.*)

A thoroughly practical little book, containing an amazingly large amount of trustworthy and well-presented information, condensed within a small compass.

G. R. B.

**ACUTE CONTAGIOUS DISEASES.** By William M. Welch, M.D., and Jay F. Schamberg, A.B., M.D. Philadelphia and New York, Lea Brothers & Co., 1905. v-viii., 17-781 pp., 60 pl., 1 col. pl. 8vo. Price: Cloth, \$5.00.

The diseases embraced under this title are vaccinia, small-pox, chicken-pox, scarlet fever, measles, rubella, typhus fever, and diphtheria. It is a comprehensive and invaluable work, written by thoroughly qualified men of immense experience, and illustrated by a most remarkable series of photographs.

G. R. B.

**DRINK RESTRICTION (THIRST CURES), PARTICULARLY IN OBESITY.** By Prof. Carl von Noorden and Dr. Hugo Salomon. New York, E. B. Treat & Co., 1905. 11., 7-16 pp. 8vo. Price: Cloth, 75 cents. (*Diseases of Metabolism and Nutrition.* By Prof. Dr. Carl von Noorden.. Vol. 6.)

This is another of the valuable, interesting, and suggestive monographs by von Noorden which requires reading for proper appreciation.

G. R. B.

**HEALTH AND DISEASE IN RELATION TO MARRIAGE AND THE MARRIED STATE.** A manual contributed to by Privatdozent Dr. med. C. Abelsdorff [and others]. Edited by Geh. Medizinalrat Prof. Dr. H. Senator and Dr. med. S. Kaminer. The only authorized translation from the German into the English language by J. Dulberg, M.D. Vol. 2. New York and London, Rebman Co. [1905]. 481-1257 pp. 8vo. Price: Cloth, \$3.50.

The second volume of this exhaustive work measures up to the high standard of its predecessor. If the practitioner desires information in regard to any possible point, major or minor, concerning the relations between marriage and disease it is very safe to say that his query will be answered somewhere in the pages of these volumes.

G. R. B.

**RADIOTHERAPY AND PHOTOTHERAPY, INCLUDING RADIUM AND HIGH-FREQUENCY CURRENTS, THEIR MEDICAL AND SURGICAL APPLICATIONS IN DIAGNOSIS AND TREATMENT.** For Students and Practitioners. By Charles Warrenne Allen, M.D. Lea Bros. & Co. 1904.

In this volume of some six hundred pages the author has reduced the immense amount of X-ray literature to a form in which it can be serviceable to the practitioner. The excellent feature in this work is the brief but adequate description of the technique.

The larger part of the book is devoted to a discussion of the more important field of therapy. The value of the high-frequency current receives timely attention, and the matter of exact dosage is discussed in a commendable manner.

The book is thoroughly practical, and will appeal to those who are interested in this new and important therapeutic agent.

WILLIAM FRANCIS CAMPBELL.

**PROGRESSIVE MEDICINE.** Vol. vii., No. 3, September 1, 1905. Philadelphia and New York, Lea Bros. & Co., 1905. 298 pp., 8vo. Price: Paper, \$1.50; Cloth, \$2.25.

This volume will be of special interest to the internist. It discusses the latest advances in diseases of the thorax, dermatology and syphilis, diseases of the nervous system and obstetrics. The high standard of this popular work is ably maintained by the distinguished corps of contributors to this volume. There is no work which gives us such a well-selected and well-digested resumé

of the world's progress in medicine and surgery as Progressive Medicine. It ought to be in the library of every physician who has faith in to-morrow rather than yesterday.

WILLIAM FRANCIS CAMPBELL.

**THE SURGICAL ASSISTANT: A Manual for Students, Practitioners, Hospital Internes and Nurses.** By Walter M. Brickner, B.S., M.D. New York, International Journal of Surgery Co. [c1905]. 11, 7-363 pp. 8vo. Price: Cloth, \$2.00.

In the making of many books we have in this volume one that covers fields hitherto unexploited. Knowledge necessary for the surgical assistant has been scattered and fragmentary, passed along from one to the other, in many respects traditional, in all respects uncoded. We hail with supreme satisfaction the appearance of this excellent work. It discusses in a thorough manner all the details of the assistant's work. It presents many suggestions which will facilitate the work. It contains precise instructions as to preparation and after-treatment of patients. It gives valuable formula for the preparation of those accessories used in surgical work. It ought to be read and mastered by every hospital interne. It ought to be in the hands of every nurse doing surgical work. It will enable every assistant in the operating room to give better co-operation and render more intelligent service in the building up of the perfect technique for which every surgeon is striving.

WILLIAM FRANCIS CAMPBELL.

**HANDBOOK OF ANATOMY: Being a Complete Compend of Anatomy, Including the Anatomy of the Viscera and Numerous Tables.** By James K. Young, M.D. Second Edition, Revised and Enlarged. Philadelphia, F. A. Davis Co., 1905. xii., 402 pp., 4 pl., 3 col. pl., 1 chart. 8vo. Price: Flexible Cloth, \$1.50.

When second editions are demanded it is presumptive evidence that the encore is a fair measure of approbation and appreciation. While we do not advocate handbooks as the best source of knowledge for the student, yet we concede as aids in putting the facts in a succinct and digestible form they are a factor in the student's education which we must not ignore.

For arrangement, accuracy and attractiveness, this hand-book surpasses many and is equalled by few. We take pleasure in recommending it to the student and practitioner as one of the best anatomical aids in the market.

WILLIAM FRANCIS CAMPBELL.

**THE SURGICAL TREATMENT OF BRIGHT'S DISEASE.** By George M. Edebohl, A.M., M.D., LL.D. N. Y., F. F. Lisiecke, 1904. 21, 327 pp., 51. 8vo. Price: Cloth, \$2.00

The medical and surgical world have been interested, enthused and disappointed by the startling announcement that Bright's disease was amenable to surgical treatment. In the invasion of purely medical territory the surgeon has made some spectacular conquests, notably the gall tract, stomach, duodenum and pancreas, but it seemed that chronic nephritis would be the last ditch to be attacked or to surrender. Six years ago the author first operated with the deliberate purpose of curing chronic Bright's Disease. Up to the time of publishing this work he had operated upon seventy-two cases with seventeen cures, twenty-nine deaths, either immediate or remote, improved twenty, unimproved three, result unknown three. The author is an enthusiastic worker and an accurate observer; it is difficult, therefore, to harmonize these results with the conclusions of modern pathologists. These have been well stated by Van Cott and substantiated by a series of interesting experiments. His conclusions are first "that chronic nephritis is a local expression of a general disease." (If this be true it is fundamental, and the specific disease will be amenable only to such treatment as will cure the general disease.)

Second, "The renal circulation cannot be restored by decapsulation and substitution of the capsula adiposa."

Third, "No amount of restoration of renal circulation would restore the integrity of the cortex."

Here then we have arranged on one side the author's

seventeen cures and twenty improvements; on the other the pathologist's statement that such results are impossible.

The surgical treatment of Bright's Disease is on trial. Only by long and patient observation can the truth be vindicated. In the meantime the author's work will be read with interest, its suggestiveness may lead to disclosures, although judgment must meanwhile be deferred.

WILLIAM FRANCIS CAMPBELL.

**A TEXT-BOOK OF THE PRACTICE OF MEDICINE.** For Students and Practitioners. By Hobart Amory Hare, M.D., B. Sc. Phil. and N. Y., Lea Bros. & Co., 1905. xv, 17-1119 pp., 5 col. pl. 4to. Price: Cloth, \$5.00.

The very considerable experience of Dr. Hare as a therapist and a maker of books renders him peculiarly qualified for the preparation of the volume under review, and his labors have resulted in a very satisfactory presentation of the practice of medicine.

While the symptomatology and diagnosis of disease have been very thoroughly treated, it is, perhaps, in the paragraphs devoted to treatment that the author is at his best. He is fortunately a strong opponent of therapeutic nihilism, and is quite as anxious to tell what to do for the disease as to tell what it is.

This volume is well written, comprehensive and modern. It is a worthy addition to Extant Practices, and deserves a prominent place among one's working books.

G. R. B.

**AMERICAN EDITION OF NOTHNAGEL'S PRACTICE. DISEASES OF THE BLOOD (Anemia, Chlorosis Leukemia).** By Prof. Dr. P. Ehrlich, Dr. A. Lazarus, Dr. K. von Noorden, Dr. F. Pinkus. Edited with Additions by Alfred Stengel, M.D. Phil. and Lond., W. B. Saunders & Co., 1905. 11, 7-714 pp. 8vo. Price: Cloth, \$5.00.

As with the other volumes of Nothnagel's Practice, the man who is practically the father of modern hæmatology are satisfactory vouchers for its excellence, among them the man who is practically the father of modern hæmatology. The American editor has made many additions—in brackets—which serve to present both sides of some mooted points, as well as to include a number of investigations not otherwise noted. As a thorough and minute account of the present status of our knowledge in regard to diseases of the blood this volume is indispensable to the clinician.

G. R. B.

**A REFERENCE HAND-BOOK FOR NURSES.** By Amanda K. Beck. Phil. and Lond., W. B. Saunders & Co., 1905. 11, 9-177 pp. nar. 16mo. Price: Flexible morocco, \$1.25.

A small book containing a good bit of information in condensed form. It should be useful to those for whom it is intended.

G. R. B.

**THE READY REFERENCE HANDBOOK OF DISEASES OF THE SKIN.** By George Thomas Jackson, M.D. Fifth Edition. N. Y. and Phil., Lea Bros. & Co., 1905. Col. front., 11, 17-676 pp., 2 pl. 8vo. Price: Cloth, \$2.75.

We have had to congratulate the author upon the appearance of each of the editions of this handy and useful little volume, and now do so again.

There is little new to be said; it, of course, does not, nor is it intended to fill the place of, or emulate the larger treatises on the subject, but for the student and busy practitioner it fills a decided want. The revisionary work and amplifications are up to date.

**INTERNATIONAL CLINICS.** Vol. 2. Fifteenth Series, 1905. Phil. and London, J. B. Lippincott Co., 1905. viii, 310 pp., 8 pl. 8vo. Price: Cloth, \$2.00.

This is a record of clinical work. The case is first given, the patient exhibited and examined, then follows a dissertation with much of value in diagnosis and therapeutics. Numerous subjects in medicine, surgery, gynecology, ophthalmology and rhinology are dealt with in this volume, and two chapters are appended on physiology and pathology.

**CARBONIC ACID IN MEDICINE.** By Achilles Rose, M.D. N. Y. and Lond., Funk & Wagnalls Co., 1905. Front., ix, 259 pp., 2 por. 12mo. Price: Cloth, \$1.00.

The first part of this book, devoted to the physiology, chemistry and history of carbonic acid, is a scholarly contribution to the literature of medicine. The second part, treating of the therapeutic application of this agent, is in some respects open to debate. The method of administration is by rectal injection. The effects in the treatment of chloriasis, asthma, emphysema of the lungs, dysentery, membranous enteritis, "colic," whooping cough, rectal fistula and many other pathological conditions, are described in detail and will prove interesting reading, if not logical nor convincing.

**PRACTICE OF MEDICINE.** A Manual for Students and Practitioners. By Hughes Dayton, M.D. N. Y. and Phil., Lea Bros. & Co., c. 1905. xiii, 17-324 pp. 12mo. Price: Cloth, \$1.00. (*Medical Epitome Series, Edited by Victor Cox Pedersen.*)

The task set the author of this little 12mo volume, by the publishers, was an appalling one, viz., to authoritatively cover, in all essentials in this circumscribed area the practice of medicine under the heads infectious diseases, diseases caused by animal parasites, intoxication and sunstroke, constitutional diseases, disease of the digestive system, diseases of the respiratory system, diseases of the circulatory system, diseases of the blood and ductless glands, diseases of the kidneys. It has been creditably performed. We would give the author the maximum mark.

**THE INTERNATIONAL MEDICAL ANNUAL.** A Year Book of Treatment and Practitioner's Index. 1905, Twenty-third year. N. Y., E. B. Treat & Co., 1905. xi, 644 pp., 27 pl., 2 col. pl. 8vo. Price: Cloth, \$3.00.

The twenty-third volume of this Annual appears with a larger page and containing an immense amount of material derived from publications in all parts of the world. The arrangement of topics is alphabetical. The number of illustrations is uncommonly large. Each year book, from different publishing houses, has its own special merits, and one should own them all if possible.

G. R. B.

**A HAND-BOOK OF NURSING,** for Hospital and General Use. Published under the direction of the Connecticut Training School for Nurses connected with the General Hospital Society of New Haven, Connecticut. *Revised Edition.* Phil. and Lond., J. B. Lippincott Co., 1905. 319 pp., 10 pl. 8vo. Price: Cloth, -1.00.

A revised edition of an excellent little book.

G. R. B.

**THE PRACTICAL MEDICINE SERIES OF YEAR BOOKS.** Under the general editorial charge of Gustavus P. Head, M.D. Series 1905. Vol. 1, General Medicine. Edited by Frank Billings, M.S., M.D., and J. H. Salisbury, M.D. Chic., Year Book Publishers, 1905. 347 pp. 12mo. Price: Cloth, \$1.00.

These small year-books have been highly commended in this journal on previous occasions. It is a pleasure heartily to renew the recommendation.

G. R. B.

**THE AMERICAN YEAR-BOOK OF MEDICINE AND SURGERY FOR 1905.** Under the Editorial Charge of George M. Gould, M.D. Vol. 1, Medicine. Phil. and Lond., W. B. Saunders & Co., 1905. 701 pp. 8vo. Price: Cloth, \$3.00.

Gould's Year Book has won an enviable place in the esteem of the medical profession. The present volume (Medical) like its predecessors, is indispensable as a review of all that is noteworthy in the current literature of the past year.

G. R. B.

**THE OPEN-AIR TREATMENT OF PULMONARY TUBERCULOSIS.** By F. W. Burton-Fanning, M.D. Cantab. London, Paris, New York and Melbourne, Cassell & Co., Ltd.; Chicago, W. T. Keener & Co., 1905. vi p., ii, 176 p., 12mo. Price: Cloth, \$1.50.

A well-written monograph, dealing in detail with modern methods of treating tuberculosis infection of the lungs. The author is more than commonly qualified by reason of a large personal experience both in sanatoria and in private practice.

G. R. B.

**SAUNDERS' QUESTION COMPENDS.—ESSENTIALS OF THE PRACTICE OF MEDICINE PREPARED ESPECIALLY FOR STUDENTS OF MEDICINE.** Arranged with Questions following each Chapter. By William R. Williams, A.M., M.D. Philadelphia and London, W. B. Saunders & Co., 1905. ii, 7-14, 17-460 p. 12mo. Price: Cloth, \$1.75.

So far as examined this compend is excellently prepared, and can be regarded as a trustworthy and useful summary of the essentials of internal medicine.

G. R. B.

**THE URINE AND FECES IN DIAGNOSIS.** By Otto Hensel, Ph.G., M.D., and Richard Weil, A.M., M.D., in collaboration with Smith Ely Jelliffe, M.D., Ph.D. Philadelphia and New York, Lea Bros. & Co., 1905. vi, 17-334 p., 10 col. pl., 2 ch. 8vo. Price: Cloth, \$2.75.

The portion of this volume which deals with the examination of urine is distinguished for its union of compactness and thoroughness. Without unnecessary verbiage it forms a very complete and excellent guide for the student and practitioner. But that half of the book which is devoted to the examination of the feces constitutes its most important claim for recognition. In it one finds much important matter which is, for the first time, published in the English language. The microscopic, microscopical, bacteriological and chemical examination of the feces are very fully described; so also are the pathogenic animal parasites, and the findings in special diseases. It is a well-written, well-illustrated and valuable book, which should be in the hands, in particular, of all followers of internal medicine.

G. R. B.

**MANUAL OF THE DISEASES OF THE EYE:** For Students and General Practitioners. By Charles H. May, M.D. *Fourth Edition, Revised.* New York, W. Wood & Co., 1905. Col. front., viii, 391 pp., 20 col. pl., 8mo. Price: Cloth, \$2.00.

May's Manual has won a well deserved success. Four editions have been issued within five years. The work has also met with favor on the other side of the Atlantic. A British edition has been published in London, a German edition in Berlin, and an Italian edition in Turin. Although intended primarily for students and general practitioners, yet the book cannot fail to be of interest to the specialist.

JAMES W. INGALLS.

**INTERNATIONAL CLINICS.** Vol. 3, Fifteenth Series, 1905. Philadelphia and London, J. B. Lippincott, 1905. viii, 302 pp., 33 pl. 8vo. Price: Cloth, \$2.00.

The therapeutic uses of the Röntgen rays or radiotherapy; the action of metallic ferments on metabolism and their effects in pneumonia; the musculo-tonic and diuretic action of formed acid; the opotherapeutic treatment of renal insufficiency; the differential diagnosis of tumors of the right hypochondrium; acute interior poliomyelitis, with special reference to the stage of invasion, are some of the important subjects treated often in this volume. They will be of interest to practitioner and student.



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